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SESSIONAL PAPERS

VOLUME 7

FOURTH SESSION OF THE TENTH PARLIAMENT

OF THE

DOMINION OF CANADA

SESSION 1907-8

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(This volume is bound in two parts.)

1. Report of the Auditor General for the nine months ended 31st March, 1907. Partial report presented 28th November, 1907, by Hon. W. S. Fielding; also 2nd December and 17th December .. ..*Printed for both distribution and sessional papers.*

CONTENTS OF VOLUME 2.

2. Public Accounts of Canada, for the fiscal period of nine months ended 31st March, 1907. Presented 28th November, 1907, by Hon. W. S. Fielding.
Printed for both distribution and sessional papers.

3. Estimates of the sums required for the services of Canada for the year ending 31st March, 1909. Presented 11th December, 1907, by Hon. W. S. Fielding.
Printed for both distribution and sessional papers.

3*a*. Further Supplementary Estimates for the year ending 31st March, 1909. Presented 9th July, 1908, by Hon. W. S. Fielding...*Printed for both distribution and sessional papers.*

4. Supplementary Estimates for the twelve months ending 31st March, 1908. Presented 3rd February, 1908, by Hon. W. S. Fielding.
Printed for both distribution and sessional papers.

4*a*. Supplementary Estimates for the year ended 31st March, 1908. Presented 16th March, 1908, by Hon. W. S. Fielding... .. ..*Printed for both distribution and sessional papers.*

5. (No issue.)

6. List of Shareholders in the Chartered Banks of Canada, as on the 31st December, 1907. Presented 8th May, 1908, by Hon. S. A. Fisher.
Printed for both distribution and sessional papers.

CONTENTS OF VOLUME 3.

7. Report of dividends remaining unpaid, unclaimed balances and unpaid drafts and bills of exchange in Chartered Banks of Canada, for five years and upwards, prior to 31st December, 1907. Presented 29th June, 1908, by Hon. W. S. Fielding.
Printed for both distribution and sessional papers.

CONTENTS OF VOLUME 4.

8. Report of the Superintendent of Insurance for the year ended 31st December, 1907.
Printed for both distribution and sessional papers.

9. Abstract of Statements of Insurance Companies in Canada, for the year ended 31st December, 1907. Presented 14th May, 1908, by Hon. W. S. Fielding.
Printed for both distribution and sessional papers.

CONTENTS OF VOLUME 5.

10. Report of the Department of Trade and Commerce, for the fiscal year (nine months) ended 31st March, 1907. Part I.—Canadian Trade. Presented 29th November, 1907, by Hon. W. S. Fielding. Part II.—Trade of Foreign Countries and Treaties and Conventions. Presented 11th March, by Hon. W. Paterson.

Printed for both distribution and sessional papers.

CONTENTS OF VOLUME 6.

10*a*. Convention respecting the Commercial Relations between France and Canada, entered into at Paris on the 19th day of September, 1907, between His Majesty and the President of the French Republic. Presented 28th November, 1907, by Hon. W. S. Fielding.

Printed for both distribution and sessional papers.

10*b*. Correspondence and memoranda in connection with the Convention of 1907, respecting the commercial relations between France and Canada. Presented 9th January. 1908, by Hon. W. S. Fielding.. .. ..*Printed for both distribution and sessional papers.*

10*c*. Supplement to Report of Department of Trade and Commerce, with statistics showing steamship traffic, &c. Presented 17th March, 1908, by Sir Wilfrid Laurier.

Printed for both distribution and sessional papers.

11. Tables of the Trade and Navigation of Canada, for the nine months of the fiscal year ended 31st March, 1907. Presented 2nd December, 1907, by Hon. W. Paterson.

Printed for both distribution and sessional papers.

CONTENTS OF VOLUME 7.

12. Inland Revenues of Canada. Excise, &c., for the nine months ended 31st March, 1907. Presented 28th November, 1907, by Hon. W. Templeman.

Printed for both distribution and sessional papers.

13. Inspection of Weights, Measures, Gas and Electric Light, for the nine months ended 31st March, 1907. Presented 28th November, 1907, by Hon. W. Templeman.

Printed for both distribution and sessional papers.

14. Report on Adulteration of Food, for the nine months ended 31st March, 1907. Presented 28th November, 1907, by Hon. W. Templeman.

Printed for both distribution and sessional papers.

15. Report of the Minister of Agriculture, for the year ended 31st March. 1907. Presented 2nd December, 1907, by Hon. S. A. Fisher.

Printed for both distribution and sessional papers.

15*a*. Report of the Dairy and Cold Storage Commissioner for the year ending 31st March, 1907. Presented 10th February, 1908, by Sir Wilfrid Laurier.

Printed for both distribution and sessional papers.

CONTENTS OF VOLUME 8.

16. Report of the Directors and Officers of the Experimental Farms for 1906 Presented 10th January, 1908, by Hon. S. A. Fisher.

Printed for both distribution and sessional papers.

17. Criminal Statistics for the year ended 30th September, 1907.

Printed for both distribution and sessional papers.

17*a*. Census of Population and Agriculture of the Northwest Provinces: Manitoba, Saskatchewan and Alberta, 1906. Presented 18th February, 1908, by Hon. S. A. Fisher. *See 17a, 1907.*

17*b*. Return of By-Elections for the House of Commons of Canada, held during the year 1907. Presented 6th March, 1908, by Sir Wilfrid Laurier.

Printed for both distribution and sessional papers.

18. Canadian Archives. *See No. 15, page lv.*

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19. Report of the Minister of Public Works, for the fiscal period ended 31st March, 1907. Presented 2nd December. 1907, by Hon. W. Pugsley.
Printed for both distribution and sessional papers.

19a. Georgian Bay Ship Canal Survey. Report on the Precise Levelling; from 1904 to 1907. Published by the Department of Public Works.
Printed for both distribution and sessional papers.

19b. Progress Report of the International Waterways Commission. Supplementary Report to 31st December, 1907. Presented 5th June, 1908, by Sir Wilfrid Laurier.
Printed for both distribution and sessional papers.

19c. Supplementary Report of the International Waterways Commission, 1908.
Printed for both distribution and sessional papers.

20. Report of the Department of Railways and Canals, for the fiscal period from 1st July, 1906, to 31st March, 1907. Presented 29th November, 1907, by Hon. G. P. Graham.
Printed for both distribution and sessional papers.

CONTENTS OF VOLUME 10.

20a. Canal Statistics for the season of navigation, 1906.
Printed for both distribution and sessional papers.

20b. Railway Statistics of Canada for the year ended 30th June, 1907. Presented 16th January, 1908, by Hon. G. P. Graham.*Printed for both distribution and sessional papers.*

20c. Second Report of the Board of Railway Commissioners for Canada, 1st April, 1906, to , 31st March, 1907. Presented 29th November, 1907, by Hon. G. P. Graham.
Printed for both distribution and sessional papers.

21. Report of the Department of Marine and Fisheries (Marine) for 1907. Presented 18th December, 1907, by Hon. L. P. Brodeur.
Printed for both distribution and sessional papers.

21a. Seventh Report of the Geographic Board of Canada, 1907-8.
Printed for both distribution and sessional papers.

21b. List of Shipping issued by the Department of Marine and Fisheries, being a list of vessels on the registry books of Canada, on the 31st December, 1907. Presented 24th June, 1908, by Hon. L. P. Brodeur...*Printed for both distribution and sessional papers.*

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21c. Report on British and Continental Ports, with a view to the development of the port of Montreal and Canadian transportation.
Printed for both distribution and sessional papers.

22. Report of the Department of Marine and Fisheries (Fisheries) for 1907. Presented 18th December, 1907, by Hon. L. P. Brodeur.
Printed for both distribution and sessional papers.

23. Report of the Harbour Commissioners. &c.
Printed for both distribution and sessional papers.

23a. Report of the Chairman of the Board of Steamboat Inspection, 1907. Presented 27th February, 1908, by Hon. L. P. Brodeur.
Printed for both distribution and sessional papers.

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24. Report of the Postmaster General, for the nine months ended 31st March, 1907. Presented 3rd December, 1907, by Sir Wilfrid Laurier.
Printed for both distribution and sessional papers.

25. Report of the Department of the Interior, for the fiscal period from 1st July, 1906, to 31st March, 1907. Presented 29th November, 1907, by Hon. F. Oliver.
Printed for both distribution and sessional papers.

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25*a*. (1906) Report of the Chief Astronomer for the year ended 30th June, 1906. Presented 17th December, 1907, by Hon. F. Oliver...*Printed for both distribution and sessional papers.*

25*a*. (1907) Report of the Chief Astronomer for the nine months ending 31st March, 1907.
Printed for both distribution and sessional papers.

25*b*. Annual Report of the Topographical Surveys Branch (Department of the Interior) 1906-7. Presented 8th June, 1908, by Hon. F. Oliver.
Printed for both distribution and sessional papers.

25*c*. Report of the Commissioner of the Yukon Territory, for the year ended 31st March, 1908.... .. ..*Printed for both distribution and sessional papers.*

25*d*. Correspondence and papers relating to Seed Grain in Saskatchewan and Alberta. Presented 18th July, 1908, by Hon. F. Oliver.
Printed for both distribution and sessional papers.

26. Summary Report of the Department of Mines (Geological Survey), for the calendar year 1907. Presented 16th January, 1908, by Hon. W. Templeman.
Printed for both distribution and sessional papers.

26*a*. Summary Report of the Mines Branch of the Department of Mines, for the fiscal year 1907-8. Presented 17th July, 1908, by Hon. W. Templeman.
Printed for both distribution and sessional papers.

26*b*. Annual Report on the Mineral Production in Canada, during the calendar year 1906.
Printed for both distribution and sessional papers.

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27. Report of the Department of Indian Affairs, for the year ended 31st March, 1907. Presented 29th November, 1907, by Hon. F. Oliver.
Printed for both distribution and sessional papers.

28. Report of the Royal Northwest Mounted Police, 1907. Presented 29th January, 1908, by Sir Wilfrid Laurier... .. ..*Printed for both distribution and sessional papers.*

29. Report of the Secretary of State of Canada, for the year 1907.
Printed for both distribution and sessional papers.

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29*a*. Report of the Royal Commission on the Civil Service, with appendices and evidence taken before the Commissioners. Presented 26th March, 1908, by Hon. W. S. Fielding; also Analytical Index of evidence and memorials.
Printed for both distribution and sessional papers.

CONTENTS OF VOLUME 16.

29*a*. Report of the Royal Commission on the Civil Service—*Continued.*

30. Civil Service List of Canada, 1907. Presented 3rd December, 1907, by Sir Wilfrid Laurier.
Printed for both distribution and sessional papers.

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31. Report of the Board of Civil Service Examiners, for the year ended 31st December, 1907. Presented 8th May, 1908, by Hon. S. A. Fisher.
Printed for both distribution and sessional papers.

32. Annual Report of the Department of Public Printing and Stationery, 1907. Pesented 11th May, 1908, by Hon. S. A. Fisher... ..*Printed for both distribution and sessional papers.*

33. Report of the Joint Librarians of Parliament for the year 1907. Presented 28th November, 1907, by the Hon. the Speaker... .. ..*Printed for sessional papers.*

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34. Report of the Minister of Justice as to Penitentiaries of Canada, for the nine months ended 31st March, 1907. Presented 4th December, 1907, by Hon. J. Bureau.
Printed for both distribution and sessional papers.

35. Annual Report of the Militia Council of Canada, 1907. (Interim Report presented 6th March, 1908.).. .. ..*Printed for both distribution and sessional papers.*

36. Report of the Department of Labour, for the nine months ended 31st March, 1907. Presented 18th December, 1907, by Sir Wilfrid Laurier.
Printed for both distribution and sessional papers.

36a. Report of W. L. Mackenzie King, C.M.G., Deputy Minister of Labour, on his mission to England to confer with the British authorities on the subject of immigration to Canada from the Orient, and immigration from India, in particular
Printed for both distribution and sessional papers.

36b. Report by W. L. Mackenzie King, C.M.G., Deputy Minister of Labour, on the need for the suppression of the opium traffic in Canada. Presented 3rd July, 1908, by Hon. R. Lemieux.. .. ..*Printed for both distribution and sessional papers.*

36c. Return to an address of the Senate, dated 16th July, for all correspondence, reports, memorials and protests forwarded to the Government in connection with the opium trade in Canada, whether asking for the suppression of said trade or otherwise. Presented 18th July, 1908.—*Hon. Sir Mackenzie Bowell*... .. ..*Not printed.*

37. Minutes of proceedings of the Board of Internal Economy of the House of Commons, pursuant to Rule of the House, number 9. Presented 2nd December, 1907, by the Hon. The Speaker.. .. ..*Not printed.*

37a. Return to an order of the House of Commons, dated 10th February, 1908. Minutes of proceedings of the Board of Internal Economy of the House of Commons from 1st January, 1902, to 1st January, 1906. Presented 6th March, 1908.—*Mr. Roche (Marquette).*
Not printed.

38. A copy of the new rules of the Supreme Court of Canada, promulgated on the 19th day of June, 1907. Presented 28th November, 1907, by the Hon. The Speaker......*Not printed.*

38a. Rules and orders of the Supreme Court of Judicature for Ontario, passed on the 27th March, 1908, under the power conferred by the Criminal Code. Presented 12th May, 1908, by Hon. A. B. Aylesworth.. .. ..*Not printed.*

39. Return to an order of the House of Commons, dated 6th July, 1908, showing the length of the National Transcontinental Railway from Moncton, New Brunswick, to Prince Rupert, in the province of British Columbia, and the estimated cost of the same. Presented 6th July, 1908.—*Hon. G. P. Graham*.. .. ..*Not printed.*

39a. Report of the Commissioners of the Transcontinental Railway for the fiscal period ending 31st March, 1907. Presented 29th November, 1907, by Hon. G. P. Graham.
Printed for both distribution and sessional papers.

39b. Supplementary return to an order of the House of Commons, dated 12th December, 1907, showing: 1. The estimated quantities used by the Transcontinental Railway Commission for arriving at the moneyed values of the tenders for the construction of the 50 miles, more or less, from Moncton westerly; for the construction of 62 miles, more or less, from Grand Falls westerly; from the south side of the St. Lawrence river, easterly 150 miles; for the 45 miles more or less westerly from near La Tuque; and for the 150 miles easterly from near Abitibi, known as the Abitibi section. 2. The various prices which each tenderer placed opposite the several items in the schedule or form of tender. 3. The total number so ascertained of each tender. Presented 24th January, 1908. —*Mr. Schell (Glengarry)*... .. ..*Not printed.*

39c. Return to an order of the House of Commons, dated 8th January, 1908, for a copy of all tenders received up to date (30th November, 1907) by, and now under contract to, the commission appointed for the construction of that portion of the line of the

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Transcontinental Railway between the city of Winnipeg, in the province of Manitoba, and the city of Moncton, in the province of New Brunswick; that such copy or return shall contain (1) signatures attached to the tenders; (2) the total amount of each tender as "moneyed out" by the said commission; (3) the quantity of each class or kind of material as used by the said commission in figuring out the cost; (4) the price per unit of prices submitted by those who responded to the invitation for tenders; and (5) the total cost of each item in the schedule, which, added together, gives the grand total cost of each undertaking tendered for. Presented 24th January, 1908.—*Mr. Taylor*.. .. ..*Not printed.*

39*d*. Return to an order of the House of Commons, dated 29th January, 1908, showing to whom, and when, the National Transcontinental Railway Commission awarded contracts for the transportation of supplies, on District E, between the following points, namely:—(*a*)Grassett to Cache 9, (b)Montizambert to New Cache 9 A, on Negogami river; (*c*)Jackfish to Caches 10, 11 A, and 12 (*d*)Nipigon to Caches 12 A, 13, 14, 15, Ombabika and Wabinosh warehouses and Cache 16, on District F; the distances in each contract, the contract rate and terms; the amounts that have been paid to date on each contract; who erected the cache and dwelling house at the line crossing on Kebinakagami river; also the new buildings at line crossing of Negogami river, and the warehouses at Jackfish; the cost of these buildings, respectively; and if tenders were invited for above transportation and building contracts. Presented 6th February, 1908.—*Mr. Boyce.* *Not printed.*

39*e*. Return to an order of the House of Commons, dated 3rd February, 1908, for a copy of the clauses and conditions, regulations and specifications contained in the contracts, in virtue of which the National Transcontinental Railway is being built, and that are for the purpose of safeguarding, securing and guaranteeing the suppliers of the contractors, to whom the work of construction has been accorded, the payment of their claims against the said contractors; likewise a list of the contracts signed, up to the present, in which appear the said clauses guaranteeing or securing the said suppliers the payment of their said bills or claims. Presented 13th February, 1908.—*Mr. Morin.* *Not printed.*

39*f*. Return (in part) to an Address of the House of Commons, dated 23rd March, 1908, for a copy of all orders in council, reports, surveys, contracts, tenders, agreements, books, memoranda, documents, and papers of every kind, showing, relating to, or concerning the length of the National Transcontinental Railway from (*a*) Winnipeg to Quebec, (*b*)Quebec to Moncton, and the estimated or probable average cost per mile of the same, and all other information relating to the total cost or the cost per mile of the said railway. Presented 21st April, 1908.—*Mr. Borden (Carleton)*.. .. ..*Not printed.*

39*g*. Letters from the chairman of the Board of Commissioners of the Transcontinental Railway, the chief engineer and others, in connection with certain allegations made by Major A. E. Hodgins, late district engineer of Section F, Transcontinental Railway. Presented 24th April, 1908, by Sir Wilfrid Laurier.. .. ..*Not printed.*

39*h*. Copy of the commission appointing Lucien Pacaud, Esquire, of the city of Quebec, as police magistrate, to carry out the law against the sale of intoxicating liquors within certain limits, along the line of the eastern extension of the Transcontinental Railway. Presented 8th May, 1908, by Hon. A. B. Aylesworth.. .. ..*Not printed.*

39*i*. Return to an order of the Senate, dated 1st April, 1908, based on the records in the offices of the Railway Commission, showing the total number of persons killed or injured by being struck by engines or trains on highway crossings, said return to show the number of persons so killed or injured on the lines of each railway company separately for the years ending 31st March, 1905, 1906 and 1907, such return to include all persons killed or injured as above described irrespective of any contention of the railway companies or opinion of the officers of the Railway Commission as to the legal rights of the said persons to use the highway crossing at the time of the accidents. Presented 12th May, 1908.—*Hon. Mr. McKay (Truro)*... .. .. *Not printed.*

CONTENTS OF VOLUME 17—*Continued.*

39*j*. Return to an order of the Senate, dated 9th April, 1908, giving a list of all railways in Canada which are not under the control or jurisdiction of the Board of Railway Commissioners; and stating in each case the reason why the railway is not controlled by the commission. Presented 12th May, 1908.—*Hon. Mr. McKay (Truro)....Not printed.*

39*k*. Return (in part) to an order of the Senate, dated 27th March, 1908, showing, separately, the highway crossings at rail level on all railways, except railways under construction, within the jurisdiction of the Railway Commission in respect of which highway crossings, protection has been ordered by the board since its organization, said return to give the character of the protection ordered in each case, the name of the railway company, the local designation of each highway crossing, and the county and province in which it is situated, and the date of the order and regulation in respect thereof; also a similar return giving the highway crossings ordered to be protected by the proper authority in each case on all railways not under the control of the board, including the Intercolonial Railway, and including orders made regarding railways under construction; also a similar return respecting all highway crossings, which had orders and regulations in respect to them in force, on the 1st day of February, 1904. Presented 18th July, 1908.—*Hon. Mr. Ferguson*.. .. ..*Not printed.*

39*l*. Supplementary Return to No. 39*k*. Presented 4th June, 1908... .. ..*Not printed.*

40. Ordinances of the Yukon Territory passed by the Yukon Council in the year 1907. Presented 3rd December, 1907, by Sir Wilfrid Laurier.. .. ..*Not printed.*

41. General Orders issued to the militia between 2nd November, 1906, and 1st November, 1907. Presented 9th December, 1907, by Sir Frederick Borden.. .. ..*Not printed.*

41*a*. Dress Regulations for the Canadian militia, 1907. Presented 9th December, 1907, by Sir Frederick Borden.. .. ..*Not printed.*

42. Ross Rifle Hand-book, 1907. Presented 9th December, 1907, by Sir Frederick Borden. *Not printed.*

43. Return under chapter 125 (R.S.C.), 1906, intituled: "An Act respecting Trades Unions," submitted to Parliament in accordance with section 33 of the said Act. Presented 9th December, 1907, by Sir Wilfrid Laurier.. .. ..*Not printed.*

44. A detailed statement of all bonds or securities registered in the Department of the Secretary of State of Canada, since last return, 4th December, 1906, submitted to the Parliament of Canada under section 32, chapter 19, of the Revised Statutes of Canada, 1906. Presented 9th December, 1907, by Sir Wilfrid Laurier.. .. ..*Not printed.*

45. Return (in so far as the Department of the Interior is concerned) of copies of all orders in council, plans, papers, and correspondence which are required to be presented to the House of Commons, under a resolution passed on 20th February, 1882, since the date of the last return, under such resolution. Presented 11th December, 1907, by Hon. F. Oliver... .. ..*Not printed.*

46. Return of orders in council which have been published in the *Canada Gazette* and in the *British Columbia Gazette*, between 1st December, 1906, and 1st December, 1907, in accordance with provisions of subsection (*d*) of section 38 of the regulations for the survey, administration, disposal and management of Dominion lands within the 40-mile railway belt in the province of British Columbia. Presented 11th December, 1907, by Hon. F. Oliver.. .. ..*Not printed.*

47. Return of orders in council which have been published in the *Canada Gazette* between 1st December, 1906, and 1st December, 1907, in accordance with the provisions of section 8 of chapter 55 of the Revised Statutes of Canada, 1906. Presented 11th December, 1907, by Hon. F. Oliver.. .. ..*Not printed.*

48. Statement of expenditure on account of miscellaneous unforeseen expenses from the 1st April. 1907, to the 28th November, 1907, in accordance with the Appropriation Act of 1907. Presented 11th December, 1907, by Hon. W. S. Fielding.. . . ..*Not printed.*

CONTENTS OF VOLUME 17—*Continued.*

49. Statement in pursuance of section 17 of the Civil Service Insurance Act, for the nine months ending 31st March, 1907. Presented 11th December, 1907, by Hon. W. S. Fielding.. .. ..*Not printed.*

50. Statement of Governor General's Warrants issued since the last session of parliament, on account of the fiscal year 1907-8. Presented 11th December, 1907, by Hon. W. S. Fielding. *Not printed.*

51. Statement of superannuations and retiring allowances in the civil service during the year ended 31st December, 1907, showing name, rank, salary, service, allowance and cause of retirement of each person superannuated or retired, also whether vacancy filled by promotion or by new appointment, and salary of any new appointee. Presented 11th December, 1907. by Hon. W. S. Fielding.. .. ..*Not printed.*

52. Return to an address of the House of Commons, dated 11th December, 1907, showing: 1. The names (*a*) of members of parliament and (*b*) ex-members of parliament who have been appointed to the Senate by the present administration, distinguishing between classes (*a*) and (*b*), giving the date of retirement in class (*b*) and date of appointment in all cases. 2. The names of members of parliament and of ex-members of parliament appointed to offices of emolument under the Crown by the present administration, distinguishing between the two classes and giving dates as in paragraph one mentioned. 3. The names of senators and ex-senators appointed to offices of emolument under the Crown by the present administration, distinguishing between the two classes and giving dates as in paragraph one mentioned. Presented 12th December, 1907.—*Mr. Lennox*.. .. ..*Not printed.*

53. Exchequer Court rules (amended), general order of the 12th September, 1907. Presented 12th December, 1907, by Sir Wilfrid Laurier.. .. ..*Not printed.*

54. Copy of articles of convention of the 21st August, 1906, between the United States and Great Britain, as to the demarcation of the boundary line between Alaska in the United States and the British possessions in North America. Presented 16th December, 1907, by Hon F. Oliver.. .. ..*Printed for sessional papers.*

54*a*. Copy of a treaty between Great Britain and the United States providing for the more complete definition and demarcation of the international boundary between the Dominion of Canada and the United States, signed at Washington on 11th April, 1908. Presented 19th May, 1908, by Sir Wilfrid Laurier. *Printed for both distribution and sessional papers.*

54*b*. Correspondence, orders in council and despatches in connection with the negotiation of a treaty between Great Britain and the United States for the definition and demarcation of the international boundary between Canada and the United States. Presented 4th June, 1908, by Sir Wilfrid Laurier...*Printed for both distribution and sessional papers.*

55. Report of the investigation held last winter by Augustus Power, K.C., of the Justice Department, in respect of Mr. F. T. Congdon. Presented 16th December, 1907, by Hon. F. Oliver.. .. ..*Not printed.*

55*a*. (1) Return to an order of the House of Commons, dated 13th January, 1908, showing all correspondence, petitions, statements, reports and papers having any relation to the claim of Mrs. Louise F. Wiley, and her infant daughter, concerning certain mining claims held by her husband in the Yukon, and which on his death without will are allowed to have gone into the possession or trusteeship of Frederick Tennyson Congdon, then public administrator in the Yukon, under appointment of the Dominion government, and all correspondence, reports, and papers, bearing upon Mr. Congdon's examination, defence and connection therewith. Presented 24th February, 1908.—*Mr. Foster.* *Not printed.*

55*a*. (2) Return to an address of the House of Commons, dated 22nd January, 1908, for a copy of all orders in council, correspondence, reports, memoranda, evidence and other documents and papers of every description relating to the estate of the late Orren

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Leonard Wiley, or to the claim of Louise F. Wiley, or of her infant daughter, against the government or against Frederick T. Congdon as public administrator of the Yukon Territory, or otherwise as an official of the government, or to any charges against the said Frederick T. Congdon as public administrator or otherwise as an official or employee of this government; excluding therefrom, however, any papers relating to the subjects which may be included in return ordered on the 13th instant, on motion of the honourable member for North Toronto. Presented 24th February, 1908.—*Mr. Foster.*
Not printed.

55*b*. Return to an address of the House of Commons, dated 29th January, 1908, for a copy of all orders in council, correspondence, evidence, memoranda and other documents and papers of every description, relating to or touching the conduct of all persons who have acted as public administrator in the Yukon Territory, or who have had charge or control by reason of their official position, of the estate of deceased persons in the Yukon Territory. And a copy of all such documents and papers aforesaid as set forth and describe the action, if any, of the government in respect of any claims, charges or proposed proceedings against any such official in respect of his duties, acts or dealings as public administrator. Presented 24th February, 1908.—*Mr. Lennox....Not printed.*

55*c*. Return to an order of the House of Commons, dated 13th January, 1908, for a copy of all telegrams, affidavits, papers sent by and all correspondence had with Rev. John Pringle, presently of the Yukon, in connection with the condition of public matters therein and with public officials thereof, and especially in reference to one Frederick Tennyson Congdon, at one time commissioner of the Yukon, and one Girouard, registrar, and one Lithgow, controller and member of the Yukon Council and in particular letters sent by Rev. John Pringle, on or about January, 1902, and in or about January, 1905, and on or about 31st July, 1907, to the premier of Canada, and other ministers, detailing the condition of public matters in the Yukon and the replies thereto. Also showing what action, if any, was taken by the government in relation to the matters dealt with therein and the reports of any commissioner appointed to investigate the charges or any part of them. Presented 2nd March, 1908.—*Mr. Foster.. .. ..Not printed.*

55*d*. Return to an order of the House of Commons, dated 20th January, 1908 for a copy of all correspondence relating to the morality of the Yukon. Presented 11th March, 1908.—*Mr. Thompson.. .. ..Not printed.*

55*e*. Return to an order of the House of Commons, dated 10th February, 1908, showing the parties to whom were made the original grants from the Crown of the lands comprised within the limits of the town of Whitehorse, Yukon Territory, and any assignments made thereof, with names of parties, dates, and consideration therefor. Presented 16th March, 1908.—*Mr. Foster.. .. ..Not printed.*

55*f*. Supplementary return to an order of the House of Commons, dated 13th January, 1908, for a copy of all telegrams, affidavits, papers sent by and all correspondence had with Reverend John Pringle, presently of the Yukon, in connection with the condition of public matters therein and with public officials thereof, and especially in reference to one Frederick Tennyson Congdon, at one time commissioner of the Yukon, and one Girouard, registrar, and one Lithgow, controller and member of the Yukon Council; and in particular letters sent by Reverend John Pringle, on or about January, 1902, and in or about January, 1905, and on or about 31st July, 1907, to the Premier of Canada and other ministers, detailing the condition of public matters in the Yukon and the replies thereto; also showing what action, if any, was taken by the government in relation to the matters dealt with therein and the reports of any commissioner appointed to investigate the charges or any part of them. Presented 7th April, 1908.—*Mr. Foster.. .. ..Not printed.*

CONTENTS OF VOLUME 17—*Concluded.*

55*g*. Return to an order of the House of Commons, dated 18th February, 1907, for a copy of all letters, memorials, telegrams, petitions, resolutions and other communications, documents and papers from any person or persons in the Yukon to the Prime Minister or to the government, or any member or official of the government, respecting the official acts or conduct of Mr. W. W. B. McInnes as commissioner of the Yukon; including any petition asking for the removal of Mr. McInnes from his position as commissioner. Presented 7th April, 1908—*Mr. White*. .. ..*Not printed.*

55*h*. Return to an order of the House of Commons, dated 13th January, 1908, for a copy of the report made by Mr. Beddoe upon the condition of the books, accounts, &c., of the financial administration of the Yukon, and especially with reference to the condition in the public administrator's office. Presented 21st April, 1908.—*Mr. Foster.*

Not printed.

55*i*. Return to an address of the House of Commons, dated 30th March, 1908, for a copy of all orders in council, reports, correspondence, documents, and papers relating to the appointment of Mr. W. H. P. Clement as legal adviser to the council of the Yukon Territory, or as public administrator in the Yukon Territory, or to any other office of emolument in the Yukon Territory, or relating to the resignation of the said W. H. P. Clement from any such office, or relating to the circumstances under which and reasons for which the said W. H. P. Clement ceased to act as such legal adviser, public administrator or in any other such capacity. Presented 7th May, 1908.—*Mr. Sproule.*

Not printed.

56. Statement of expenditure as to bounty to deep-sea fishermen, for the year 1906-7. Presented 18th December, 1907, by Hon. L. P. Brodeur.. .. ..*Not printed.*

56*a*. Return to an order of the House of Commons, dated 13th January, 1908, showing the names and residences of all fishermen in the county of Cape Breton to whom fishing bounties were paid between 31st December, 1905, and 1st January, 1908, together with a statement of the amount paid to each person, the date on which it was paid, and the name of the officer or person by whom the sum was paid. Presented 11th February, 1908.—*Mr. Borden (Carleton)*... .. ..*Not printed.*

56*b*. Supplementary return to No. 56*a*. Presented 13th July, 1908.. .. ..*Not printed.*

57. Correspondence and instructions with regard to the Lord's Day Act in its application to the Yukon Territory. Presented 18th December, 1907, by Hon. A. B. Aylesworth.

Not printed.

CONTENTS OF VOLUME 18.

58. Minutes of Proceedings of the Colonial Conference held at the Colonial Office, Downing Street, London, from the 15th April to the 14th May, 1907. Presented 22nd May, 1908, by Sir Wilfrid Laurier.... .. ..*Printed for both distribution and sessional papers.*

59. Report of the Royal Commission on the Grain Trade of Canada. Presented 8th January, 1908, by Hon. F. Oliver.... .. ..*Printed for both distribution and sessional papers.*

60. Return to an order of the House of Commons, dated 18th December, 1907, for a copy of the report of the Honourable Justice James Henry Madden, appointed by order in council, 15th May, 1907, to investigate and report upon the matter of arrears for rentals on certain leases at Dunnville, Welland Canal feeder. Presented 9th January, 1908.—*Mr. Lalor*... .. ..*Not printed.*

61. Return to an address of the House of Commons, dated 11th December, 1907, for a copy of all correspondence, petitions, statements, papers, orders in council, and proclamations respecting the setting out of limits for prohibition of the sale of liquors along the line of the Grand Trunk Pacific under the Public Works Construction Act. Presented 9th January, 1908.—*Mr. Foster*.... .. ..*Not printed.*

61*a*. Supplementary return to No. 61. Presented 27th January, 1908.. .. ..*Not printed.*

CONTENTS OF VOLUME 18—*Continued.*

62. Return to an order of the House of Commons, dated 11th December, 1907, for a copy of all correspondence, documents, papers, memoranda, and reports, relating to the retirement, resignation, or dismissal of Mr. Hodgins, C.E., from the service of the National Transcontinental Railway Commission, and the grounds or reasons therefor. Presented 9th January, 1908.—*Mr. Borden (Carleton)*.. .. ..*Not printed.*

62*a*. Return to an order of the House of Commons, dated 18th December, 1907, showing what changes, if any, have been made in the National Transcontinental Railway Commission's engineering staff during the current calendar year. Presented 9th January, 1908.—*Mr. Macdonell*.. .. . .*Not printed.*

62*b*. Return to an order of the House of Commons, dated 12th December, 1907, showing : 1. The estimated quantities used by the Transcontinental Railway Commission for arriving at the moneyed values of the tenders for the construction of the 50 miles, more or less, from Moncton westerly; for the construction of 62 miles, more or less, from Grand Falls westerly; from the south side of the St. Lawrence river, easterly 150 miles; for the 45 miles more or less westerly from near La Tuque; and for the 150 miles easterly from near Abitibi, known as the Abitibi section. 2. The various prices which each tenderer placed opposite the several items in the schedule or form of tender. 3. The total amount so ascertained of each tender. Presented 9th January, 1908.—*Mr. Schell (Glengarry). See also 39b*.. .. ..*Not printed.*

63. Return to an address of the House of Commons, dated 11th December, 1907, for a copy of all orders in council, correspondence, reports, opinions of the Department of Justice, memoranda, papers and documents; also of all plans or route maps relating to the proposed new eastern entrance of the Grand Trunk Railway Company into the city of Toronto. Presented 9th January, 1908.—*Mr. Macdonell*.. .. ..*Not printed.*

64. Return to an order of the House of Commons, dated 11th December, 1907, for a copy of all writs, forms and instructions issued and used in and for the purposes of the several elections for Dominion constituencies in the year 1907. Presented 9th January, 1908.—*Mr. Barker*.. .. ..*Not printed.*

65. Return to an address of the House of Commons, dated 11th December, 1907, for a copy of the order in council appointing Honourable J. A. Ouimet as judge of the Court of the King's Bench, as well as a copy of all correspondence, reports, medical certificates and order in council concerning his being pensioned. Presented 9th January, 1908.—*Mr. Lanctot (Laprairie-Napierville)*.. .. ..*Not printed.*

66. The Canada Year Book, 1906. Presented 10th January, 1908, by Hon. S. A. Fisher.
Printed separately.

67. Report of the Commissioner, Dominion Police Force, for the year 1907. Presented 13th January, 1908, by Hon. A. B. Aylesworth.. .. ..*Not printed.*

68. Return to an order of the House of Commons, dated 11th December, 1907, showing: 1. The number of officials of the government, civil or military, or officers of the active militia who perform services in any way connected with the manufacture of rifles for the government by the Ross Rifle Company. 2. Their names, ranks, and duties, and the amount of their individual salary or remuneration. 3. The total amount, (apart from contract cost of rifle), or expenditure by the government with the Ross Rifle Company, including any bonus, loans, inspections, cost of testing, commissions, or expenditure of any kind, with the individual amounts. Presented 16th January, 1908.—*Mr. Worthington*.. .. ..*Not printed.*

68*a*. Return to an order of the House of Commons, dated 11th December, 1907, showing reports of commissions, boards of inquiry, inspections, reports of industrial officers, to the government or any member thereof, including reports from the comptroller, commissioner, or any officer, or member of the Northwest Mounted Police, the Dominion Rifle Association, or any member thereof, or any rifle association or club, or any

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member thereof, or to the commandant, or any member of the Bisley team, regarding the efficiency of the Ross rifle, to date. Presented 9th April, 1908.—*Mr. Worthington.*
Not printed.

68*b*. Return to an order of the House of Commons, dated 11th March, 1908, for a copy of all correspondence between the government or any department thereof, and the Ross Rifle Company, or any representative thereof, or between the government and any bank or other institution which has made advances under the contract between the government and the said company, or any representative of such bank or institution, relating to the accounts and financial or other affairs of the Ross Rifle Company, including any letters or correspondence from any official of the Bank of Montreal to the Auditor General. Presented 9th April, 1908.—*Mr. Worthington*.. .. ..*Not printed.*

68*c*. Return to an address of the House of Commons, dated 18th March, 1908, for a copy of all correspondence, reports, communications and other papers and documents of every kind and description not already brought down, relative to the rifle known as the Ross rifle, or to the contract between the government and any person or corporation with respect to the said rifle, or to the value or efficiency thereof, or to any alleged defects therein; also a copy of all letters, telegrams, despatches, reports, and other communications of every kind from the British government or any member or official thereof, or from the War Office, or Secretary of State for War, or any officer or official or person employed by or in the service of the British government, to the Governor General of Canada, or to the government of Canada, or to the Minister of Militia, or to any officer or official or person in the public service of Canada, relative to the said rifle, or to the value or efficiency of the said rifle or any defects therein, or any matter or thing connected therewith. Presented 9th April, 1908.—*Mr. Worthington.*
Not printed

68*d*. Return to an address of the House of Commons, dated 11th December, 1907, for a copy of all contracts between the Ross Rifle Company and the government, or the Department of Militia, for the supply of rifles, ammunition and other articles, and all orders in council, correspondence, reports ,documents and papers, relating to such contracts, and the subject-matter thereof, and to the operations of the company, and to its dealings with the government, or any of the departments, including the Department of Customs, and the Bank of Montreal, or any banking institutions. Presented 9th April, 1908.—*Mr. Worthington*.. .. ..*Not printed.*

69. Return of lands sold by the Canadian Pacific Railway Company, from the 1st October, 1906, to the 1st October, 1907. Presented 13th January, 1908, by Hon. F. Oliver.
Not printed.

70. Report of the Ottawa Improvement Commission for the nine months ended the 31st March, 1907. Presented 13th January, 1908, by Hon. W. S. Fielding.
Printed for sessional papers.

71. Return to an order of the House of Commons, dated 11th December, 1907, showing : 1. How much money has been expended to date on the Royal Mint, for construction and equipment, respectively. 2. The sums required to complete on both accounts. 3. The officers and employees, and at what yearly salaries, are required to man the institution. 4. The face value of copper and silver and gold coinage obtained by the government per year for the last ten years, and what it has cost the government therefor. 5. The total profit on coinage in the ten years. 6. The amount of coinage it is in contemplation to issue in 1908, and in what denominations. 7. Who is to make the purchases and fix the price of bullion necessary for the use of the Mint. 8. Upon what system the officers and employees of the Mint are appointed, promoted and dismissed. Presented 13th January, 1908.—*Mr. Foster*.. .. ..*Not printed.*

CONTENTS OF VOLUME 18—*Continued.*

72. Supplementary return to an address of the House of Commons, dated 10th December, 1906, for a copy of all orders in council, correspondence, and all other papers, relating to the Standard Chemical Company (Limited), or Pevelan & Co., in its dealings with the Customs and Inland Revenue Departments from the date of the incorporation of the said company to the present date. Presented 16th January, 1908.—*Mr. Robitaille.*
Not printed.

73. Return to an order of the House of Commons, dated 11th December, 1907 showing: 1. All promotions that have been made to the rank of colonel in the active militia during the past year, with names. 2. The nature of service, merit or seniority justifying such promotions. 3. The record of war services of such officers. 4. Previous to the gazetting of such promotion the positions held by such officers on the seniority list of the colonels. 5. The number of lieut.-colonels who were outranked or superseded by such promotions, with their names and services. Presented 17th January, 1908.—*Mr. Worthington*.. .. ..*Not printed.*

74. Return to an address of the House of Commons, dated 11th December, 1907, for a copy of all orders in council, correspondence, documents and papers relating to Chinese seeking admission to the public schools of British Columbia as students, and relating to the remission of head-tax on such persons Presented 20th January 1908.—*Mr. Borden (Carleton)*.. .. ..*Not printed.*

74*a*. Report of W. L. Mackenzie King, commissioner to inquire into the methods by which oriental labourers (Japanese) have been induced to come to Canada. Presented 20th January, 1908, by Hon. R. Lemieux.. .. ..*Not printed.*

74*b*. Return to an address of the House of Commons, dated 12th December, 1907, for a copy of all correspondence between the Government of Canada and the Imperial authorities, and a copy of all correspondence between the Government of Canada, and any person or persons, and of all reports communicated to the Government in respect to the Anglo-Japanese convention regarding Canada. Presented 21st January, 1908.—*Mr. Borden (Carleton)*.... .. ..*Printed for sessional papers.*

74*c*. Supplementary return to No. 74*b*. Presented 21st January.
Printed for sessional papers.

74*d*. Supplementary return to an address of the House of Commons, dated 18th December, 1907, for a copy of all orders in council, correspondence, documents and papers, during the past ten years, relating to the immigration of Chinese and Japanese into Canada. Presented 24th February, 1908.—*Mr. Borden (Carleton)*.. .. ..*Not printed.*

74*e*. Return to an address of the House of Commons, dated 18th December, 1907, for a copy of all orders in council, correspondence, documents and papers, during the present year, relating to the immigration of Japanese into Canada. Presented 9th March, 1908.—*Mr. Borden (Carleton)*.... .. ..*Not printed.*

74*f*. Report of W. L. Mackenzie King, C.M.G., Deputy Minister of Labour, commissioner appointed to investigate into the losses sustained by the Chinese population of Vancouver, in the province of British Columbia, on the occasion of the riot in that city in September, 1907. Presented 30th June, 1908, by Hon. R. Lemieux.
Printed for both distribution and sessional papers.

74*g*. Report by W. L. Mackenzie King, C.M.G., Deputy Minister of Labour, commissioner appointed to enquire into the losses and damages sustained by the Japanese population in the city of Vancouver, in the province of British Columbia, on the occasion of riots in that city in September, 1907. Presented 30th June, 1908, by Hon. R. Lemieux.
Printed for both distribution and sessional papers.

74*h*. Report of W. L. Mackenzie King, C.M.G., commissioner appointed to enquire into methods by which Oriental labourers (Hindoo and Chinese) have been induced to come to Canada. Presented 13th July, 1908, by Hon. R. Lemieux.... .. ..*Not printed.*

CONTENTS OF VOLUME 18—*Continued.*

75. Return to address of the House of Commons, dated 11th December, 1907, for a copy of all correspondence, instructions or communications sent by the Government of Canada, through the Secretary of State or otherwise, to Sir Henri Joly de Lotbinière, as Lieutenant Governor of British Columbia, during the years 1905 and 1906, respectively. Presented 21st January, 1908.—*Mr. Borden (Carleton)*... .. ..*Not printed.*

76. Copy of an order in council regarding sale of a portion of Major's Hill Park, Ottawa, to the Grand Trunk Railway Company as a site for a hotel. Presented 21st January, 1908, by Hon. W. Pugsley.. .. ..*Not printed.*

77. Return to an order of the House of Commons, dated 16th December, 1907, for a copy of any declarations or affidavits made by Robert Cruickshank, or other persons in the Regina Lands district, or any other complaints in regard to alleged improper or unauthorized charges by individuals, whether in the service of the Government or not, for locating settlers on homesteads, or obtaining for them entries for homesteads, by cancellation or otherwise, together with all correspondence, reports, or other papers on the subject; also all communications, reports, correspondence, or other papers between the Department of the Interior and any of its officials and any person or persons in regard to homestead entries, cancellations, protections, inspectors' reports, &c., for the s.w. ¼ sec. 16 and the n.w. ¼ sec. 20 and the n.w. and s.w. ¼ sec 36, all in tp 14, r. 9, w. 2nd M. Presented 23rd January, 1908.—*Mr. Lake*.... .. ..*Not printed.*

78. Return to an order of the House of Commons, dated 11th December, 1907, showing how many applications were refused for permission, as granted by order in council passed on 16th May, 1906, for saw-mill owners to cut timber. Presented 23rd January, 1908. —*Mr. Roche (Marquette)*... .. ..*Not printed.*

79. Return to an order of the House of Commons, dated 11th February, 1907, showing the total expenditure each constituency, as defined prior to last Redistribution Act, the the years 1897, 1898, 1899, 1900, 1901, 1902, 1903, 1904, 1905, and 1906, for: *(a)* Harbours and rivers, including dredging, wharfs, docks, breakwaters, piers, or other improvements and repairs. *(b)* For public buildings and lands, including repairs, extensions, &c. *(c)* Maintenance and caretakers, including fuel, lights, &c. *(d)* Expenditure in connection with Intercolonial Railway, including purchase of lands, erection of buildings, repairs, &c., and improvements, and the place where spent. Presented 29th January, 1908.—*Mr. Sproule*.. .. ..*Not printed.*

80. Return to an order of the House of Commons, dated 11th December, 1907, showing a summary of stock, implements, chattels, grain, hay, roots and all other kinds of fodder, with their value, for the years ending 1st December, 1906 and 1907; also the amount paid for all kinds of live stock, their kind and number, the amount paid for all kinds of feed, giving the kind, the amount of all kinds of product sold, and their kind; the amount paid for all kinds of grain and seed for distribution for the same years, on the Central Experimental Farm, Ottawa. Presented 23rd January, 1908.—*Mr. Jackson (Elgin)*.. .. ..*Not printed.*

81. Return to an order of the House of Commons, dated 11th December, 1907, showing the number of immigrants secured and located by Mr. N. B. Miller, of the town of Napanee, in the county of Lennox and Addington, the names of such immigrant, his age, the names of the respective parties with whom they were located, also the township in which such party resides; also the amount of money received by the said N. B. Miller from the government for his services in salary, commission, or both; also the amount of moneys received by the said N. B. Miller, respectively, from residents in the said county of Lennox and Addington for his services in securing the aforesaid immigrants. Presented 23rd January, 1908.—*Mr. Wilson (Lennox and Addington)*.. .. ..*Not printed.*

81*a*. Return to an order of the House of Commons, dated 11th December, 1907, showing the number of immigrants secured and located by Mr. M. C. Dunne, of Yarker, in the county of Lennox and Addington, the names of each such immigrant, his age, the names

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of the respective parties with whom they are located, also the township in which such party resides; also the amount of money received by the said M. C. Dunne from the government for his services in salary, commission, or both; also the amount of moneys received by the said M. C. Dunne, respectively, from residents in the said county of Lennox and Addington for his services in securing the aforesaid immigrants. Presented 23rd January, 1908.—*Mr. Wilson (Lennox and Addington)*.. .. .. ..*Not printed.*

81*b*. Return to an order of the House of Commons, dated 13th January, 1908, showing list of the names of immigration agents appointed by the government in each county of the province of Ontario, the county in which each such agent is employed, the number of immigrants placed by each such agent, and the amounts paid to each such agent for his services and expenses. Presented 30th January, 1908.—*Mr. Clements.Not printed.*

81*c*. Return to an order of the House of Commons, dated 11th December, 1907, for a copy of all reports received by the government from each of the special immigration agents sent to Great Britain and the continent of Europe, for the fiscal year ending 31st March, 1907. Presented 30th January, 1908.—*Mr. Wilson (Lennox and Addington).*
Not printed.

81*d*. Return to an order of the House of Commons, dated 16th December, 1907, showing the number of immigrants who reached and settled in Canada during the fiscal years of 1905-6 and 1906-7, and from what countries they came. Presented 11th February, 1908. —*Mr. Paquet*.. .. ..*Not printed.*

81*e*. Return to an order of the House of Commons, dated 22nd January, 1908, for a copy of all correspondence between the Department of the Interior and James S. Waugh, immigration distribution agent, subsequent to 1st December, 1907. Presented 11th February, 1908.—*Mr. Gordon*.. .. ..*Not printed.*

81*f*. Return to an order of the House of Commons, dated 3rd February, 1908, showing what special immigration agents the Government of Canada has in the British Islands; their respective names, and from what parts of Canada they come; the arrangements made by the Government with the said agent or agents as to salary and expenses; the date of their respective appointments, and at what time they left this country to take up their work. Presented 11th February, 1908.—*Mr. Wilson (Lennox and Addington).*
Not printed.

81*g*. Return to an Address of the House of Commons, dated 29th January, 1908, for a copy of all orders in council now in force with respect to immigration from every country from which immigrants come to Canada; also a copy of all circulars in force at the present time with reference to immigration. Presented 13th February, 1908.—*Mr. Wilson (Lennox and Addington)*.. .. ..*Not printed.*

81*h*. Return to an order of the House of Commons, dated 20th January, 1908, for a copy of all certificates by farmers resident in the riding of West Kent, and returned to the department by emigration agents for the said riding, and on certificates such agents were paid for placing emigrants with each farmer, giving the names of each emigrant and of each farmer such were placed with, giving the total amount received by each agent up to the present time Presented 3rd March, 1908.—*Mr. Clements*...*Not printed.*

81*i*. Return to an order of the House of Commons, dated 11th March, 1908, for a copy of all certificates by A. G. McDonald, immigration agent for Prince Edward County, Ontario, claiming payment for immigrants by him alleged to have been placed with farmers or other employers; also, a copy of all certificates or communications by such farmers or other employers received by the Department of the Interior relating to immigrants so claimed as placed by said A. G. McDonald, giving in each case the name and post office address of the immigrant and of the farmer or the employer. Presented 13th April, 1908.—*Mr. Alcorn*.. .. ..*Not printed.*

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CONTENTS OF VOLUME 18—*Continued.*

81*j*. Return to an order of the House of Commons, dated 23rd March, 1908, showing the expenditure of the Government for food, clothing and other maintenance for immigrants after landing in Canada for the years 1900, 1901, 1902, 1903, 1904, 1905, 1906, 1907, 1908, to 1st March. Presented 30th April, 1908.—*Mr. Schaffner*.. .. ..*Not printed.*

81*k*. Report of E. Blake Robertson, assistant superintendent of immigration, respecting Joseph Bernstein, Halifax. Presented 27th May, 1908, by Hon. F. Oliver...*Not printed.*

82. Return to an order of the House of Commons, dated 18th December, 1907, showing the total amount paid by this Government each year, during the past five years, towards mail subsidies to steamships; the names of the countries served, the names of steamers and contractors, and the steamship subventions. Presented 28th January, 1908.—*Mr. Armstrong*.. .. ..*Printed for sessional papers.*

83. Return to an order of the House of Commons, dated 13th January, 1908, for a copy of the lease, conditions, &c., passed between the Government of Canada and a company for the use of the Beauharnois Canal. Presented 24th January, 1908.—*Mr. Bergeron.*
Not printed.

84. Copies of a letter and telegrams between the Lieutenant Governor of British Columbia and the Honourable the Secretary of State for Canada, on the subject of the disallowance of a Bill of the Legislature of British Columbia, intituled: "An Act to regulate immigration into British Columbia." Presented 24th January, 1908, by Sir Wilfrid Laurier.. .. ..*Not printed.*

85. Return to an order of the House of Commons, dated 8th January, 1908, for a copy of all correspondence between the Department of Justice, or any department of the Government, and Mr. Frederick Fraser Forbes, now a district judge in the province of Saskatchewan, or any other person or persons, in reference to the personal or professional status or character of Mr. Forbes, or his appointment as a judge as above-mentioned, and of all writings and documents of any kind in reference to the foregoing matter. Presented 28th January, 1908.—*Mr. Taylor*.. .. ..*Not printed.*

86. Return to an order of the House of Commons, dated 15th January, 1908, showing the number of applications made to the Board of Railway Commissioners for the privilege of crossing railway tracks with telephone and telegraph wires and with water mains each, over the said period from 1st February, 1904, to the 1st January, 1908; the total number of applications granted over said period; the total number of applications refused; the date of each application; the date each application was granted; the length of time from the application to the granting of same; and what time should elapse before the board should give its decision. Presented 27th January, 1908.—*Mr. Barr.*
Not printed.

87. Return to an order of the House of Commons, dated 16th December, 1907, showing, in respect of all grants of right to divert water and construct ditches made under the provisions of the Yukon Placer Mining Act, 1906, the number of the claim, name and address of the grantee, date of issue, length of term, source of water, quantity that may be diverted, estimated expenditure within one year, time limit for construction, sum paid for the privilege and the name and address of present holder, if rights have been transferred. Presented 30th January, 1908.—*Mr. Boyce*.. .. ..*Not printed.*

88. Return to an order of the House of Commons, dated 11th December, 1907, showing the timber lands sold or leased by the Department of the Interior subsequent to the date of those included in Sessional Paper, No. 167*a*, brought down to the House on the 9th of April, 1907; the description and area of such lands, the applications made therefor, the notice of advertisement for sale or tender, the tenders received, the amount of each tender, the tenders accepted, the name of the person or company to whom each lot was sold or leased, and the name and address of each person or company to whom any of such leases have been transferred. Presented 30th January, 1908.—*Mr. Ames.*
Not printed.

CONTENTS OF VOLUME 18—*Continued.*

88*a*. Return to an order of the House of Commons, dated 11th December, 1907, showing, in respect of timber berth number 1279, all applications, correspondence, reports, advertisements, tenders, leases, transfers, or memoranda of any description. Presented 3rd February, 1908.—*Mr. Ames*.... .. ..*Not printed.*

88*b*. Return to an order of the House of Commons, dated 18th December, 1907, showing, in respect of timber berths numbers 1031, 1118, 1097 and 1098, all bonuses, rentals, or dues, paid to date by the lessees or other assigns to the Government, together with a copy of all applications, correspondence, reports, advertisements, tenders, leases, transfers or memoranda of any description in connection therewith. Presented 18th February, 1908. —*Mr. White*.. .. ..*Not printed.*

88*c*. Return to an order of the House of Commons, dated 18th December, 1907, showing, in respect of timber berths numbers 1050, 1265, 1267, 1274 and 1275, all bonuses, rentals or dues paid to date by the lessees or other assigns to the Government, together with a copy of all applications, correspondence, reports, advertisements, tenders, leases, transfers or memoranda of any description in connection therewith. Presented 18th Febru ary, 1908.—*Mr. Boyce*... .. ..*Not printed.*

88*d*. Return to an order of the House of Commons, dated 12th February, 1908, for the production of all the original applications and tenders filed in the Department of the Interior in respect of timber berths numbers 1050, 1265, 1267, 1274 and 1275, and that the names be laid upon the Table of the House, said papers not to be part of the archives of this House, but to be returned by the Clerk to the Department of the Interior after inspection. Presented 24th February, 1908.—*Mr. Boyce*.....*Not printed.*

88*e*. Return to an order of the House of Commons, dated 12th February, 1908, for the production of all the original applications and tenders filed in the Department of the Interior in respect of timber berths numbers 1031, 1118, 1119, 1097 and 1098, and that the same be laid upon the Table of the House, said papers not to be part of the archives of this House, but to be returned by the Clerk to the Department of the Interior after inspection. Presented 24th February, 1908.—*Mr. White*.... .. ..*Not printed.*

88*f*. Return to an order of the House of Commons, dated 12th February, 1908, for the production of all the original applications and tenders filed in the Department of the Interior in respect of timber berths numbers 1048, 1049, 1122 and 1168, and that the same be laid upon the Table of the House, said papers not to be part of the archives of this House, but to be returned by the Clerk to the Department of the Interior after inspection. Presented 24th February, 1908.—*Mr. Boyce*.. .. ..*Not printed.*

88*g*. Return to an order of the House of Commons, dated 10th February, 1908, that there be laid on the Table for inspection the original applications and tenders in respect of timber berths numbers 1220, 1226, 1238 and 1272, said papers not to be part of the archives of this House, but to be returned by the Clerk to the Department of the Interior after inspection. Presented 24th February, 1908.—*Mr. Lake*.... ..*Not printed.*

88*h*. Return to an order of the House of Commons, dated 18th December, 1907, showing, in respect of timber berths numbers 1048, 1049, 1122 and 1168, all bonuses, rentals, or dues paid to date by the lessees or other assigns to the Government, together with a copy of all applications, correspondence, reports, advertisements, tenders, leases, transfers and memoranda of any description in connection therewith. Presented 9th March, 1908.— *Mr. Boyce*.. .. ..*Not printed*

88*i*. Return to an order of the House of Commons, dated 18th December, 1907, showing, in respect of all timber berths at present under license or authorized to be licensed within the provinces of Manitoba, Saskatchewan, Alberta and the Northwest Territories, (*a*) number or designation of each berth; (*b*) number of license for 1907-8; (*c*) area of berth in square miles; (*d*) name and address of present license holder; (*e*) name and address of original applicant, with date of his application; (*f*) date of issue from Ottawa of advertisement; (*g*) date fixed therein for opening of tenders; (*h*) name and address of

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successful tenderer; (*i*) amount of bonus paid; (*j*) date when definite selection of blocks was completed and the returns of the survey filed with the Department of the Interior at Ottawa; (*k*) amount of dues collected during the year ending the 30th of April, 1907. in respect of each berth for ground rent, stumpage royalty, and the cost of fire guarding, &c.; also the amount, if any, unpaid and overdue at the termination of said year; (*l*) whether license was issued according to order in council of April 14th, 1903, or of July 23rd, 1906; (*m*) in case of berths upon which during the year 1906-7 no timber was cut, whether notification has been served on license holder to operate a saw-mill, and the date of such notice. Presented 11th March, 1908.—*Mr. McCarthy (Calgary)*

Not printed.

88*j*. Return to an order of the House of Commons, dated 11th December, 1907, bringing the information as contained in Sessional Paper No. 167*b*, brought down April 26th, 1907, up to date. Presented 13th March, 1908.—*Mr. Ames*.. .. ..*Not printed.*

88*k*. Return to an order of the House of Commons, dated 3rd February, 1908, for a copy of all letters, correspondence, applications, advertisements, reports, memoranda, valuations, estimates, tenders, transfers, or other writings or papers in respect of or in connection with timber berths numbers 1413, 1414 and 1415. Presented 16th March, 1908.—*Mr. Lennox*.. .. ..*Not printed.*

88*l*. Return to an order of the House of Commons, dated 26th February, 1908, for a copy of all applications to homestead or purchase, reports, agreements of lease or sale, correspondence exchanged between the Department of the Interior and any person whatsoever, and papers of every description dealing with or treating of the sale or lease of surface, mining, timber, or any other rights in respect of the n.w. ¼ of section 8, township 53, range 4, west of the 5th M. Presented 19th March, 1908.—*Mr. Ames.*

Not printed.

88*m*. Return to an order of the House of Commons, dated 18th December, 1907, showing, in respect of timber berths numbers 1220 to 1226, 1238 and 1272, all bonuses, rentals or dues paid to date by the lessees or other assigns to the Government, together with a copy of all applications, correspondence, reports, advertisements, tenders, leases, transfers or memoranda of any description in connection therewith. Presented 24th March, 1908.—*Mr. Lake*.. .. ..*Not printed.*

88*n*. Return to an order of the House of Commons, dated 9th March, 1908, for a copy of applications, recommendations of applications, and replies thereto, instructions, regarding advertising, and a copy of all tenders and replies thereo, for timber berths numbers 652, 657, 677, 679, 681, 683, 684, 721, 722, 730 and 743. Presented 30th March, 1908.—*Mr. McCraney*.. .. ..*Not printed.*

88*o*. Return to an order of the House of Commons, dated 2nd March, 1908, for the production of all the original applications and tenders filed in the Department of the Interior in respect of timber berths 1046, 1047, 1052, 1058, 1068, 1070, 1093, 1094, 1099, 1191, 1192 and that the same be laid upon the Table of the House, said papers not to be part of the archives of this House, but to be returned by the Clerk to the Department of the Interior after inspection. Presented 13th April, 1908.—*Mr. Ames*.. .. .. ..*Not printed.*

88*p*. Return to an Address of the House of Commons, dated 26th February, 1908, for a copy of all orders in council, letters, telegrams, reports, recommendations, tenders or communications of any kind in relation to the granting of sixteen townships and certain timber limits in the Peace River region, as referred to in a motion of the 15th January, ult., reference 102, not already brought down. Presented 13th April, 1908.—*Mr. Hughes (Victoria and Haliburton)*.. .. ..*Not printed.*

CONTENTS OF VOLUME 18—*Continued.*

88*q*. Return to an order of the House of Commons, dated 26th February, 1908, showing the total sum (money or scrip) that the Government has received on account of the lands, mines, minerals, timber &c., in the various Dominion lands offices in the provinces of Manitoba, Saskatchewan and Alberta, distinguishing between each province, during the following periods: from 1st July, 1896, to 30th June, 1905, and from 1st July, 1905, to 31st December, 1907. Presented 21st April, 1908.—*Mr. Lake.. .. ..Not printed.*

88*r*. Return to an order of the House of Commons, dated 19th February, 1908, showing all sales of Dominion lands other than coal lands, of 160 acres and upwards, in the provinces of Manitoba, Saskatchewan and Alberta, which have been made by the Government during the calendar year 1907; the prices obtained; names of purchasers; dates of sales; and in general terms, the grounds upon which sales were authorized. Presented 21st April, 1908.—*Mr. Lake.. .. ..Not printed.*

88*s*. Return to an order of the House of Commons dated 17th February, 1908, showing: 1. How many applications for timber licenses were received by the Government of Mr. Mackenzie, what area in square miles they covered, how many licenses were issued, what area they covered, and under how many of those licenses operations were actually carired on, and what area these included. 2. How many applications for timber licenses were received by the Government from November 1st, 1878, to July 1st, 1896, and what area in square miles they covered, how many licenses were issued, and what area they covered, under how many of these licenses operations were actually carried on, and what area they covered. 3. How many permits to cut lumber were given to applicants as above in leases where licenses had not issued during each of these periods. Presented 21st April, 1908.—*Mr. Foster.. .. ..Not printed*

88*t*. Return to an order of the House of Commons, dated 26th February, 1908, showing a list of timber berths awarded between 1st June, 1904, and 15th July, 1906, with the number of tenders in each case, the amount of each tender, the name of the successful tenderer, the area of each berth, the dates of notice and opening of the tenders in each case. Presented 22nd April, 1908.—*Mr. Crawford.. .. ..Not printed.*

88*u*. Return to an order of the House of Commons, dated 6th April, 1908, showing what coal lands were granted to sundry persons through the agency of P. E. Lessard, of Edmonton, together with copies of all letters, papers and documents relating to the application, sale, lease or cancellation of the same. All from the general file for the group of claims, and not the special file for each section. Presented 7th May, 1908.—*Mr. Ames.* *Not printed.*

88*v*. Return to an order of the House of Commons, dated 23rd March, 1908, showing what coal areas are held by F. E. Keniston, of Minneapolis; said return to include a copy of all letters, documents and correspondence relating to the application, sale, lease or cancellation of the same, from the general file for each group of claims, and not the special file of each section. Presented 7th May, 1908.—*Mr. Ames.. .. .. ..Not printed.*

88*w*. Return to an order of the House of Commons, dated 6th April, 1908, showing what coal lands are now or have been at any time owned, controlled, leased or operated in townships 53 and 54, range 7, west of the 5th meridian, by the Alberta Development Company (Limited), together with a copy of all applications, correspondence, deeds of sale and other documents in connection therewith. Presented 12th May, 1908.—*Mr. Ames.. .. .. .Not printed.*

88*x*. Return to an order of the House of Commons, dated 6th April, 1908, showing what coal lands in townships 9 and 10, ranges 21, 22 and 23, west of the 4th meridian, were granted through the agency of J. W. Bettes (or his firm), of Winnipeg, Manitoba, together with a copy of all letters, documents and papers relating to the application, sale, lease or cancellation of the same. All from the general file for the group of claims, and not the special file for each section. Presented 18th May, 1908.—*Mr. Ames.* *Not printed.*

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88*y*. Return to an order of the House of Commons, dated 2nd March, 1908, for the production of all original tenders filed in the Department of the Interior in respect of timber limits numbers 645, 646, 675, 703, 705 and 733 to 737, and that the same be laid upon the table of the House, said papers not to be part of the archives of this House, but to be returned by the clerk to the Department of the Interior after inspection. Presented 20th May, 1908.—*Mr. McCraney*.. .. ..*Not printed.*

88*z*. Return to an order of the House of Commons, dated 23rd March, 1908, showing what coal areas were obtained through the agency of Malcolm McKenzie on behalf of clients; and a copy of all letters, documents and correspondence relating to the application, sale, lease or cancellation of the same; also the same information in regard to J. H. Moss, of Toronto. All from the general file for each group of claims, and not the special file for each section. Presented 27th May, 1908.—*Mr. Ames*.. .. ..*Not printed.*

88*aa*. Return to an order of the House of Commons, dated 26th February, 1908, for a copy of all applications, leases, assignments, correspondence, and papers, of every description in connection with or referring to the granting or sale of the mining rights in sections 17, 20, 21, 28, 29, 32 and 33, of township 8, range 4, west of the 5th meridian. Presented 27th May, 1908.—*Mr. Perley*.. .. ..*Not printed.*

88*bb*. Return to an order of the House of Commons, dated 6th April, 1908, showing what coal lands in townships 41 and 42, ranges 17 and 18, west of the 5th meridian, were granted through the agency of McGiverin & Hayden, Ottawa, together with a copy of all letters, documents and papers relating to the application, sale, lease or cancellation of same. All from the general file for the group of claims, and not the special file for each section. Presented 27th May, 1908.—*Mr. Ames*.. .. ..*Not printed.*

89. Return to an Address of the House of Commons, dated 20th January, 1908, for a copy of all papers and correspondence between the government of Canada and the government of the province of British Columbia, relating to the application of the Grand Trunk Pacific Railway Company to acquire a portion of the Metlakatla Indian Reserve, British Columbia, and to the general question of the claim of said province to the Indian reserves therein, since the date of said application. Presented 30th January, 1908.—*Mr. Ross (Yale-Cariboo)*.. .. ..*Not printed.*

90. Return to an order of the House of Commons, dated 15th January, 1908, for a copy of all correspondence, reports, locations, records of payments made on, payments returned, homestead entries, cancellations thereof; of any order, direction or other authority given to any homesteader or person who had entered for homestead to re-enter after cancellation of entry or default thereunder; any evidence of sale by Peter Luensen to Frederick Heintz, and any correspondence, affidavits, memoranda, or other documents by the department, or any of its officers, with W. L. MacKenzie, Peter Luenson, Frederick Heintz, Alexander K. Thom, Wm. R. Gardner, Thomas J. Oliver, or any other person in regard to the n.e. ¼ sec. 32, township 36, r. 16, west of 2nd m., Saskatchewan. Presented 30th January, 1908.—*Mr. Porter*.. .. ..*Not printed.*

90*a*. Supplementary return to No. 90. Presented 1st April, 1908.. .. ..*Not printed.*

90*b*. Return to order of the House of Commons, dated 6th April, 1908, showing: 1. Any Government lands near New Westminster, British Columbia, sold to one J. W. Patterson, and, if sold, by what department of the Government. 2. Whether they were Indian or military reserve lands, or either of them. 3. The prices Mr. Patterson paid for said lands, if any were sold to him. 4. The date of such sale or sales. Presented 27th April, 1908.—*Mr. Reid (Grenville)*.. .. ..*Not printed.*

90*c*. Return to an order of the House of Commons, dated 16th March, 1908. showing all lands acquired from the Government by the Grand Trunk Pacific Town and Development

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Company, together with the area, location, purchase price of each tract, and a copy of all correspondence between the Government and the company or any individuals interested therein or connected therewith, as to the general terms and conditions under which the Government land should be granted to the said company. Presented 27th April, 1908.—*Mr. Ames*.. .. ..*Not printed.*

90*d*. Return to an order of the House of Commons, dated 30th March, 1908, showing all the lands granted to the Saskatchewan Valley Land Company under their contract of May, 1902, specifying those which are patented as well as those unpatented, to date. Presented 30th April, 1908.—*Mr. Roche (Marquette)*... .. ..*Not printed.*

90*e*. Return to an order of the House of Commons, dated 26th February, 1908, showing the approximate total area of Dominion lands disposed of by the Government in each of the provinces of Manitoba, Alberta and Saskatchewan, between the 1st July, 1896, and the 30th June, 1905, distinguishing between lands for agricultural purposes, grazing, irrigation, timber and coal; and also from the 1st July, 1905, to the 31st December, 1907. Presented 7th May, 1908.—*Mr. Lake*.. .. ..*Not printed.*

91. Return to an order of the House of Commons, dated 22nd January, 1908, showing the names and number of establishments being operated under the law and regulations of the "Meat and Food Inspection Act"; when they were individually put under the operation of the Act; and the names and number of inspectors for each establishment. presented 30th January, 1908.—*Mr. Hughes (Victoria and Haliburton)*....*Not printed.*

92. Return to an order of the House of Commons, dated 15th January, 1908, for a copy of all papers, correspondence, tenders and contracts, in connection with building piers at Port Maitland, Ontario. Presented 30th January, 1908.—*Mr. Lalor*.. .. ..*Not printed.*

92*a*. Return to an order of the House of Commons, dated 3rd February, 1908, for a copy of all correspondence, contracts, telegrams, reports, plans and specifications, together with all other information not already brought down, in possession of the Government, relating to the construction of piers or docks already constructed or under construction at the following places: Bayfield, Huron county, Ontario; Grand Bend, county of Huron, Ontario; St. Joseph, county of Huron, Ontario; together with a statement of all moneys expended, and to whom paid, and the date of payment, and nature of the work done or material used. Presented 7th May, 1908.—*Mr. Armstrong*....*Not printed.*

92*b*. Supplementary return to No. 92*a*. Presented 11th May, 1908.. .. ..*Not printed.*

93. Return to an order of the House of Commons, dated 13th January, 1908, showing the total amount of bounties paid by the Government since 1896, and the amount for each year on each article. Presented 30th January, 1908.—*Mr. Clements.*

Printed for sessional papers.

94. Return to an address of the Senate, dated 19th February, 1907, for a statement showing the names, christian names, age, and country of origin of all the persons who, coming from the British Isles, from English colonies or from foreign lands, as strangers to Canada, have been placed, whether by order in council, by decision of the Militia Council, or otherwise, in any branch whatsoever of the military service of Canada, in the permanent force or in the volunteer force, together with the date of each of these appointments, the nature of the employment, the rank of the holder (before and after his appointment), and the yearly amount which he receives for his services. Presented 22nd January, 1908.—*Hon. Mr. Landry*.. .. ..*Printed for sessional papers.*

95. Return of reductions and remissions made under Revised Statutes of Canada, chapter 81, section 88, ss. 2. Presented (Senate) 22nd January, 1908, by Hon. Mr. Scott.*Not printed.*

CONTENTS OF VOLUME 18—*Continued.*

96. Return to an address of the House of Commons, dated 17th December, 1906, for a copy of all orders in council, advertisements for tenders, tenders, specifications of every kind, plans, drawings, reports, letters, telegrams, correspondence, contracts, agreements and other documents and papers of every kind, touching or relating to any works at or near St. Andrews Rapids, in the province of Manitoba, and especially such documents as aforesaid in connection with any tender or contract by or on behalf of Charles Whitehead, or Kelly Brothers, or any subsequent tenderers or contractors. Presented 29th January, 1908.—*Mr. Borden (Carleton)*.. .. ..*Not printed.*

97. Return to an order of the House of Commons, dated 13th January, 1908, for a copy of all papers, correspondence, and evidence, in respect of the trial for criminal conspiracy against certain persons in the Yukon in connection with the Dominion elections of 1904. Presented 3rd February, 1908.—*Mr. Foster* . .. .*Not printed.*

98. Return to an order of the House of Commons, dated 13th January, 1908, for a copy of all correspondence between Major E. S. Wigle, of Windsor, Honourable R. F. Sutherland, A. H. Clarke, and the Minister of Inland Revenue, respecting the extension of the franchise of the Windsor, Detroit and Belle Isle Ferry Company. Presented 3rd February, 1908.—*Mr. Clements*.. .. ..*Not printed.*

99. Return to an order of the House of Commons, dated 29th January, 1908, for a copy of all correspondence, telegrams, or reports, respecting the refusal of the lieutenant governor of British Columbia to give his assent to a bill passed by the legislature of that province in 1907, respecting immigration and commonly referred to as the Natal Act. Presented 3rd February, 1908.—*Mr. Smith (Nanaimo)*.. .. ..*Printed for sessional papers.*

100. Return to an address of the House of Commons, dated 11th December, 1907, for a copy of all papers and correspondence between the government of Canada and any of its ministers with reference to the establishment of a fast line of steamship communication between Great Britain, Australia, New Zealand and Canadian ports. Presented 3rd February, 1908.—*Mr. Foster*.. .. ..*Not printed.*

101. Return to an order of the House of Commons, dated 11th December, 1907, for a copy of all correspondence, enclosed clippings, agreements, statements, &c., between the government or any member thereof, and especially the Minister of Marine and Fisheries, the Minister of Railways, the Minister of Agriculture, the Minister of Militia, and Sir Wilfrid Laurier, and one F. E. Williams, of St. John, New Brunswick; one W. H. Trueman, of St. John, and any other person or persons whatsoever in relation to the establishment of a bait freezer and cold storage established in St. John, New Brunswick. Presented 5th February, 1908.—*Mr. Foster*.. .. ..*Not printed.*

102. Return to an order of the House of Commons, dated 11th December, 1907, showing the expenditure by the Dominion Government on (*a*)wharfs; (*b*) harbours and river improvements; (*c*) dredging; (*d*) public buildings; for each year since 1896, in the counties of Digby, Yarmouth, Shelburne, Queen's, Lunenburg and Pictou, Nova Scotia, specifying the works by name, with amounts expended thereon. Presented 6th February, 1908.—*Mr. Foster*.. .. ..*Not printed.*

103. Return to an order of the House of Commons, dated 20th January, 1908, for a copy of letters, telegrams, and reports, regarding complaints made by John Franklin and Stapleton Brothers, with respect to Indian Agent Yeomans. Presented 6th February, 1908.—*Mr. Foster*.. .. ..*Not printed.*

104. Return to an order of the House of Commons, dated 20th January, 1908, showing the amount paid each year for provisions for the Royal Military College, for the Halifax Garrison, and the Permanent Military School in Quebec, the average number of men provisioned each year of the above institutions, and cost per man per day. Presented 10th February, 1908.—*Mr. Foster*.. .. ..*Not printed.*

CONTENTS OF VOLUME 18—*Continued.*

105. Return to an order of the House of Commons, dated 11th December, 1907, showing the number of fishing licenses issued by the Government for any of the lakes in the province of Saskatchewan, to whom issued, and on what lakes. Presented 10th February, 1908.—*Mr. Chisholm (East Huron)*.. .. ..*Not printed.*

106. Return to an order of the House of Commons, dated 15th January, 1908, showing what lands have been sold, leased, given as homesteads, transferred or set apart in any way by the Government to each: individuals, companies, syndicates, or other organizations in the Peace River Valley, or along or near tributaries thereof, in the Northwest of Canada; when each area was allotted; the terms between the Government and the various parties or organizations concerned; what prices per acre were realized from these transactions; with whom the Government conducted negotiations in each case; the regulations governing the securing of land in the Peace River Valley; and how far it is from Edmonton to Dunvegan. Presented 11th February, 1908.—*Mr. Hughes (Victoria and Haliburton)*.. .. ..*Not printed.*

107. Return to an address of the House of Commons, dated 22nd January, 1908, for a copy of all orders in council, reports, memoranda, correspondence, documents, plans, tenders and advertisements of every kind, nature and description, relating to the proposed acquisition under lease of certain car work shops with railway sidings at Moncton, New Brunswick. Presented 12th February, 1908.—*Mr. Barker*.. .. ..*Not printed.*

108. Return to an order of the House of Commons, dated 16th December, 1907, showing all coal lands leased, sold or otherwise disposed of from the 1st of March, 1907, to date, giving the area disposed of, the party to whom, the consideration therefor, the assignments made, if any, the date thereof, and the name of the assignee in each case. Presented 13th February, 1908.—*Mr. Ames*.. .. ..*Not printed.*

108*a*. Return to an order of the House of Commons, dated 26th February, 1908, showing, in respect of each of the undermentioned blocks disposed of as coal lands by the Government, viz.: Section 13, of township 9, range 4, west of the 5th m.; section 16, township 10, range 3, west of the 5th m., section 15, township 11, range 4, west of the 5th m.; section 20, township 12, range 4, west of the 5th m.; section 5, township 13, range 4, west of the 5th m., section 21, township 19, range 7, west of the 5th m.; when and by whom the first application was made for right to acquire; when and to whom the original grant of mining rights was made; what transfers of rights have been recorded, the date of transfer, and date of registration of same; who the present owner or occupant is, as known to the department; and the name and address of each company or person above referred to. Presented 16th March, 1908.—*Mr. Ames*.. .. ..*Not printed.*

108*b*. Return to an address of the House of Commons, dated 2nd March, 1908, for a copy of (a) an order in council of the 19th May, 1902, and the regulations therein referred to and approved for the disposal of coal lands, the property of the Dominion Government, in Manitoba, the Northwest Territories and British Columbia. (*b*)A copy of all orders in council altering, amending or cancelling any such regulations for the aforesaid purposes, and the said amended or other regulations. (*c*)A copy of all orders in council approving, amending or cancelling regulations as regards the Yukon for the purposes aforesaid, and the said regulations and amended regulations. Presented 24th March, 1908.—*Mr. Barker*.. .. .. *Not printed.*

108*c*. Return to an order of the House of Commons, dated 26th February, 1908, showing, in respect of each of the undermentioned blocks disposed of as coal lands by the Government, viz.: sections 2, 4, 9, 15, 17, and 28, of township 7, range 3, west of the 5th m., when and by whom the first application was made for right to acquire; when and to whom the original grant of mining rights was made; what transfers of rights have been recorded, when such transfers were dated, and when registered with the department; who the present owner or occupant is, as known to the department; and the name and address of each company or person above referred to. Presented 24th March, 1908.—*Mr. Ames*.. .. ..*Not printed.*

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108*d*. Return to an order of the House of Commons, dated 26th February, 1908, for a copy of all inquiries, applications, leases, contracts, agreements, assignments, correspondence and papers of every description, in connection with or referring to the granting of coal mining privileges in section 11, township 8, range 4, west of the 5th meridian. Presented 27th March, 1908.—*Mr. Ames*.. .. ..*Not printed.*

108*e*. Return to an order of the House of Commons, dated 16th March, 1908, showing: 1. What leases for coal lands in the Northwest Territories were granted by the Government in the years 1903 and 1904. 2. To whom, and on what dates the same were granted, and the amounts paid therefor. 3. Whether the person to whom the lease was granted was the original applicant. 4. Whether any assignment of such leases has been made, when, and to whom. 5. Who the present holders are of said leases. Presented 1st April, 1908.—*Mr. Boyce*.. .. ..*Not printed.*

108*f*. Supplementary return to 108*e*. Presented 6th April, 1908.. .. ..*Not printed.*

108*g*. Return to an order of the House of Commons, dated 16th December, 1907, for a copy of all applications, reports, correspondence, leases, contracts, deeds, sale and documents of every description in connection with the purchase of coal mining lands either on their own behalf or on behalf of clients. by the firm of Hough, Campbell & Ferguson, or by any individual member of said firm, together with a copy of the regulations governing the sale of such rights at the time of purchose. Presented 30th April, 1908.—*Mr. Herron*.. .. ..*Not printed.*

108*h*. Return to an order of the House of Commons, dated 19th February, 1908, setting forth in respect of the following coal lands: 1. The name and address of the first applicant and the date thereof. 2. The names and addresses of all subsequent applications, with date thereof, in the order of application. 3. The name and address of the party to whom the mining rights were granted, with date of sale or lease by the Government. 4. Price paid per acre, sale or lease. 5. Date and amount of first payment on account of purchase price. 6. Dates and amounts of each subsequent payment on account of purchase price. 7. Total amount paid as purchase price and balance, if any, still unpaid. 8. How long reservation was made by the department in favour of the grantee or his assigns. 9. The name and address of all parties to whom assignments were made, with date of each assignment, and date of its registration with the department. 10. The name and address of present owner of said mining rights. 11. A copy of all correspondence in reference to the same: Township 7, range 3, west of 5th m.; sections 1, 2, 3, 4, 5, 6, less the s.e. ¼; section 7, less e. ½; section 8; section 9; section 10, less s.w. ¼; section 11, less s.e. ¼; section 14, less e. ½; section 15; section 16, less n.e. ¼; section 17; section 20, less e. ½ of n.e. ¼; section 21, less s. ½ and n.w. ¼; section 22; section 28; section 27, less e. ½; section 32, less e. ½; section 33; section 34, less e. ½. Township 7, range 2, west of 5th m.; section 18, 20 and 21 Township 6, range 3, west of 5th m.; sections 27 and 28; section 32, less w. ½; sections 33 and 34. Presented 22nd April, 1908.—*Mr. Ames*.. .. ..*Not printed.*

109. Return to an order of the House of Commons, dated 22nd January, 1908, showing on what dates since June 30th, 1906, advances were made on account of travelling expenses to Honourable L. P. Brodeur, to Mr. Wiallard, his private secretary, and to Napoléon Potvin, his messenger, respectively, for what amounts, and to what accounts they were severally charged; also what refunds, if any, have been made on any of these several advances, and on what dates. Presented 14th February, 1908.—*Mr. Foster*..*Not printed.*

109*a*. Return showing all advances to Ministers of the Crown and their private secretaries, on account of travelling or other expenses in connection with the Imperial Conference of 1907, the date of such advances, and the appropriation against which it was charged. Presented 2nd March, 1908.—*Mr. Foster*.. .. ..*Not printed.*

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109*b*. Return (as far as the Department of Inland Revenue is concerned), to an order of the House of Commons, dated 22nd January, 1908, showing the advances made each year since July 1, 1904, to December 31, 1907, on account of travelling expenses to Honourable L. P. Brodeur and his private secretary and messengers, the date and amount of each advance, and the appropriation to which it was charged, the dates at which each advance was finally accounted for, and the dates on which any repayments were made to the treasury, and the amount of such repayments, and all correspondence with the Auditor General's Department in connection therewith. Presented 2nd March, 1908.—*Mr. Foster*.. .. ..*Not printed.*

110. Return to an order of the House of Commons, dated 8th January, 1908, showing the total quantity of freight carried on the winter steamers between Prince Edward Island and the mainland during the past two seasons, 1905-6 and 1906-7; the amount of freight that was delayed in transit for those two seasons; the freight rate on the different classes of goods carried; the amount received for freight during those two seasons; the amount received for passengers and the number carried; the number of days the steamers failed to cross in each of those years; and the amount of damages paid to shippers for delay of goods in transit. Presented 14th February, 1908.—*Mr. Martin (Queen's)*.. .. ..*Not printed.*

110*a*. Return to an order of the House of Commons, dated 20th January, 1908, for a copy of all correspondence, telegrams, &c., in the possession of the Government or any member or official thereof, respecting the withdrawal of the winter steamers from Charlottetown on or about the 8th January, instant, and their replacement some days later. Presented 14th February, 1908.—*Mr. Martin (Queen's)*.. .. ..*Not printed.*

111. Return to an order of the House of Commons, dated 3rd February, 1908, for a copy of all correspondence, reports and papers, respecting the salary, expenses, duties and annual period of employment of W. Maxwell Smith, Dominion fruit inspector in British Columbia; also full details of his expenses during the years 1906 and 1907, respectively. 1908.—*Mr. Jackson (Elgin)*.. .. ..*Printed for sessional papers.*

112. Return to an order of the House of Commons, dated 13th January, 1908, for a copy of pedigreed cattle, if any, did the Central Experimental Farm, Ottawa, sell during the years 1906 and 1907; and how many in each year, giving the different breeds, the name of purchaser, his place of residence, price paid, and breed. Presented 14th February, 1908.—*Mr. Jackson (Elgin)*.. .. ..*Printed for sessional papers.*

113. Return to an order of the House of Commons, dated 13th January, 1908, for a copy of all papers, accounts and correspondence, in connection with the seizure of the M. J. Wilson Cordage Company, of the city of Chatham, Ontario, by the Dominion Government, in the year 1904. Presented 17th February, 1908.—*Mr. Clements*.. ..*Not printed.*

114. Return to an order of the Senate, dated 31st January, 1908, showing the appointments made to the Senate from confederation, with date of appointment and date when the appointees ceased to be senators. Presented 11th February, 1908.—*Hon. Mr. Wilson.*
Printed for distribution.

115. Return to an address of the Senate, dated 29th January, 1908, showing the number of persons killed and of those otherwise injured, separately, at railway crossings during the last three years, giving the number in each year separately; giving also for each year the number of persons thus killed or otherwise injured in thickly populated places separately from those killed or otherwise injured in the rural districts, showing also the number of such accidents at protected crossings separately from unprotected crossings. Presented 11th February, 1908.—*Hon. Mr. Béique*.. .. ..*Not printed.*

116. Return to an order of the House of Commons, dated 11th December, 1907, for a copy of all communications, reports, correspondence, or other papers, between the Depart-

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ment of the Interior and any of its officials, and A. Samovici, H. Bolocan, and any other person or persons in regard to the n.w. ¼ section 20, township 22, range 13, west 2nd m., including applications for cancellation, protections, homesteads, inspectors' reports, &c. Presented 18th February, 1908.—*Mr. Lake*.. .. ..*Not printed.*

117. Return to an order of the House of Commons, dated 11th December, 1907, for a copy of all correspondence between the Departments of the Marine and Fisheries and Justice of Canada and the Attorney General of Nova Scotia, or any official acting under his authority, in connection with the suit in the Supreme Court of Nova Scotia of the King by Dr. Tait, of Cheticamp, in the county of Inverness, Nova Scotia, versus William Ancoin. Presented 18th February, 1908.—*Mr. McLennan*.. .. ..*Not printed.*

118. Return to an order of the House of Commons, dated 18th December, 1907, for a copy of all contracts for food for men at the volunteer camps throughout Canada for the season of 1907; also for the regular troops at Halifax, Quebec and other places. Presented 18th February, 1908.—*Mr. Smith (Wentworth)*.. .. ..*Not printed.*

119. Return to an order of the House of Commons, dated 3rd February, 1908, for a copy of all correspondence between the Railway Commission and the Department of Railways and Canals, or the Intercolonial Railway, and between the Railway Commission and the Canadian Pacific Railway, and the Grand Trunk Railway, and between the Railway Commission and the Fredericton Board of Trade, in reference to the alleged discrimination against the city of Fredericton in the matter of freight rates; and also for a copy of all other papers and documents on file with the Railway Commission in relation thereto. Presented 19th February, 1908.—*Mr. Crocket*.. .. ..*Not printed.*

120. Return to an order of the House of Commons, dated 16th December, 1907, for a copy of all offers, reports, valuations, plans, deeds of purchase, correspondence and other papers of every description in connection with the purchase of site for the new Montreal examining warehouse, together with a statement of all expenditure and all indebtedness incurred to date in this connection. Presented 19th February, 1908.—*Mr. Ames.*

Not printed.

121. Return to an order of the Senate, dated the 30th January, 1908, showing: 1. Title of each Bill by years sent by the Senate to the House of Commons, from 1867 to 1907, inclusive, that was (*a*) amended by the Hous of Commons, or (*b*) rejected. 2. Title of each Bill by years sent up by the House of Commons to the Senate, from 1867 to 1907, inclusive, that was (*a*) amended by the Senate, or (*b*) rejected. 3. The total number of Bills for each year as above to be tabulated in four periods, (*a*) 1867 to 1873, inclusive; (*b*) 1874 to 1878, inclusive; (*c*) 1879 to 1896, first session, inclusive; (*d*) 1896 to 1907, inclusive. Presented 19th February, 1908.—*Hon. Mr. Ross (Middlesex)*.. .. .. ..*Not printed.*

122. Report of the commissioners appointed to inquire into a dispute between the Bell Telephone Company of Canada (Limited) and the operators of the said company at Toronto, with respect to wages and hours of employment, etc. Also copy of evidence taken under Royal Commission in the dispute between the Bell Telephone Company of Canada and its operators, in February, 1907. Presented 24th February, and 11th March, 1908, by Hon. R. Lemieux.. .. ..*Not printed.*

123. Return to an order of the House of Commons, dated 17th February, 1908, for a copy of the contract and all correspondence relating to a payment of $3,900 to the Midland Towing and Wrecking Company, as set out at page P—32 of the Auditor General's Report for 1906-7, and of the advertisement calling for tenders. Presented 10th March, 1908.—*Mr. Bennett*.. .. ..*Not printed.*

124. Return to an order of the House of Commons, dated 18th December, 1907, showing what sums have been expended or voted for the dredging of the Rivière à la Graisse, at Rigaud; to whom the contracts were given; and what sums have been voted or paid out for dredging Dorion Bay, Vaudreuil station. Presented 24th February, 1908.—*Mr. Bergeron*.. .. ..*Not printed.*

CONTENTS OF VOLUME 18—*Continued.*

124*a*. Return to an order of the House of Commons, dated 18th December, 1907, showing what sums have been voted or expended for the dredging of the river bottom between Charlemagne and Terrebonne; since when the dredging has been going on there; what sums have been voted or expended for wharfs at Terrebonne and at St. François de Sales; and who obtained the contracts. Presented 24th February, 1908.—*Mr. Bergeron.*
Not printed.

124*b*. Return to an order of the House of Commons, dated 11th December, 1907, showing: 1. What harbours or rivers in the province of Ontario were tenders invited for dredging work by the Department of Public Works during the present year. 2. The names of the successful tenderers at each of the said places for which dredging tenders were invited in Ontario in 1907, and the prices asked by each party respectively. 3. Amounts of the tenders respectively of the different persons tendering at each of the foregoing points. 4. Also at what points new tenders were invited, and when the first tenders were accepted. Presented 9th June, 1908.—*Mr. Bennett*.. .. ..*Not printed.*

124*c*. Return to an order of the House of Commons, dated 6th of April, 1908, for a copy of all the correspondence exchanged between the Government and Messrs. T. B. Mongenais, Hugh McMillan and others, relating to dredging work done in the River Rigaud, formerly the River Graisse, up to the year 1890. A copy of the reports and correspondence relating to the construction or purchase of the Graham wharf. A copy of the report and correspondence relating to the dredging done at Como up to 1900. A copy of the reports and correspondence relating to the dredging done at Vaudreuil Village, and also those relating to the construction and repair of the wharf situated in that village since 1867. And also a copy of the report and correspondence relating to the deepening of the River St. Louis at Beauharnois. Presented 30th June, 1908.—*Mr. Boyer*.. .. ..*Not printed.*

125. Return to an order of the House of Commons, dated 3rd February, 1908, for a copy of all correspondence, telegrams, engineer's reports, &c., in the hands of the Government or any member or official thereof, respecting proposed repairs to the wharf at Little Sands, in Prince Edward Island. Presented 25th February, 1908.—*Mr. Martin (Queen's).*
Not printed.

126. Return to an order of the House of Commons, dated 12th February, 1908, for a copy of the report made by John Fraser, of the Auditor General's Department, on the 7th January, 1898, of a special examination held by him of the financial affairs of the Montreal Turnpike Trust. Presented 10th March, 1908.—*Mr. Monk*.. .. .. ..*Not printed.*

126*a*. Return to an order of the House of Commons, dated 22nd January, 1908, showing: 1. The present indebtedness to the Dominion Government of the Montreal Turnpike Trust (*a*) on capital account, (*b*) for arrears of interest. 2. The amounts collected at each toll gate belonging to the said Turnpike Trust during the three years ending 31st December, 1905, 1906, 1907, respectively. 3. The names of all parties who have commuted their tolls during each of the above-mentioned years, 1905, 1906, 1907, and the amount of the commutation money paid to the Trust in each case. 4. The amounts expended on each section or road division, under the control of the said Trust, during each of the said years, ending 31st December, 1905, 1906, and 1907, respectively, and the contracts given out during each of the said years, with the name of the contractor and the date and amount involved in each case; and a statement in each case also as to whether the contract was awarded after tender called through the newspapers. 5. The amount paid out during each of the said three years, 1905, 1906, 1907, at each toll gate for salaries of day and night guardians, and any other expenditure at each of the toll gates maintained. 6. The names of all parties holding passes for free use of the roads under control of said Trust, during each of the said three years above referred to, 1905, 1906, 1907, with a statement in each case of the reason why the pass was so granted. 7. The expense of the said Trust during each of the said years, for rent, salaries of the

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office, inside or outside service, giving name and remuneration of each official. 8. The actual present indebtedness in detail of the said Trust outside of its bonds due to the Government of Canada. 9. The amounts collected, by said Trust, year by year, since the 1st February, 1905, from municipalities under special agreements made as to their share pro rata of the bonded indebtedness of the Turnpike Trust. 10. The names of all those members of the Trust appointed or elected to represent the bondholders since the 1st July, 1896, with the date of the election in each case. 11. The amounts paid by the Trust to any of its members or officials during each of the said three years, 1905, 1906, 1907, whether as travelling or personal expenses, or indemnity for attendance or for any other reason whatever. 12. The name of the auditor of the Trust, and the date of the audit made of the company's affairs, in each of the said three years, 1905, 1906, 1907, respectively. 13. A copy of the agreements between the Trust and any municipalities on the Island of Montreal, by which the Trust ceded to said municipalities any portion of its roads, said copy to be certified by the president and secretary of said Trust. Presented 20th March, 1908.—*Mr. Monk*.. .. ..*Not printed.*

127. Return to an address of the Senate, dated 24th January, 1908, for a copy of the different tariffs in force upon the Intercolonial Railway, in 1896-7 and 1906-7, between Quebec and St. Flavie, and all intermediate stations between those two points, for the carriage of passengers or of goods, under the operation of the winter-tariff and under that of the summer-tariff. Presented 24th February, 1908.—*Hon. Mr. Landry*.. ..*Not printed.*

128. Statement of the affairs of the British Canadian Loan and Investment Company, Limited, for the year ended the 31st of December, 1907. Presented 25th February, 1908, by the Hon. The Speaker.. .. ..*Not printed.*

129. Return to an order of the House of Commons, dated 19th February, 1908, showing how much money has been paid since 1896 to the Eclipse Manufacturing Company of Ottawa; how much each year; and the general character of the supplies furnished. Presented 27th February, 1908.—*Mr. Blain*.. .. ..*Not printed.*

130. Return to an order of the House of Commons, dated 10th February, 1908, for a copy of all correspondence between Mr. A. E. Dyment, M.P., and the Department of Marine and Fisheries as to granting of pound net licenses in 1905 to Messrs. Low & Roque, of Killarney, as also to any other persons; also a list of persons to whom pound net licenses were granted in that year. Presented 27th February, 1908.—*Mr. Bennett.*
Not printed.

131. Return to an order of the House of Commons, dated 12th December, 1907, showing: 1. The number of disputes dealt with under the Industrial Disputes Investigation Act, 1907, to the 1st of December, 1907. 2. The dates at which the several applications for the operation of the Act have been received. 3. Names of the parties concerned in the several disputes. 4. Name of the party making application. 5. Locality of dispute. 6. Number of persons affected. 7. Nature of dispute. 8. Names of members of board of conciliation and investigation where same has been established. 9. Date on which board was established. 10. Date of sittings of board. 11. Result of the reference of the dispute under Act. Presented 27th February, 1908.—*Mr. Smith (Nanaimo).*
Not printed.

132. Return to an order of the House of Commons, dated 12th February, 1908, for a copy of correspondence, plans, and other data in connection with the flooding of roads above the dam at Wilberforce, in Haliburton County, and the proposals, if any, for improving said roads and the bridge so as to prevent obstruction of traffic. Presented 27th February, 1908.—*Mr. Hughes (Victoria and Haliburton)*..... .. ..*Not printed.*

133. Return to an order of the House of Commons, dated 17th February, 1908, for a copy of reports, plans, surveys, and other data, in connection with the proposal to construct a branch canal from Balsam Lake, on the Trent Canal, to the head of Gull River waters, in Haliburton County. Presented 27th February, 1908.—*Mr. Hughes (Victoria and Haliburton)*... .. ..*Not printed.*

CONTENTS OF VOLUME 18—*Continued.*

134. Return to an order of the House of Commons, dated 11th December, 1907, for a copy of all correspondence received by the Department of Agriculture in connection with the inspection of meats and the regulations in connection with the Inspection of Meats and Canned Foods Bill. Presented 27th February, 1908.—*Mr. Clements*.. .. ..*Not printed.*

134*a*. Return to an order of the House of Commons, dated 9th March, 1908, for a copy of all correspondence, telegrams, reports and recommendations in possession of the Government, with respect to the inspection of packing houses, or the Meat Inspection Act. including the appointment of inspectors. Presented 25th March, 1908.—*Mr. Armstrong. Not printed.*

135. Return to an order of the Senate, dated 26th February, 1908, for a detailed statement of the expenses incurred during the past three years, in connection with the synoptical reports of the debates of the Senate, furnished by the special reporter of that House, as well as a statement of the nature and particulars of the agreement with the present reporter. Presented 27th February, 1908.—*Hon. Mr. Wilson*.. .. ..*Not printed.*

136. Return to an address of the Senate dated 11th February, 1908, showing the amount of imports of oxide of aluminum during the years 1903, 1904, 1905, 1906 and 1907, with the values of such imports for each one of said years separately. Presented 28th February, 1908.—*Hon. Mr. Ellis*.. .. ..*Not printed.*

136*a*. Return to an address of the Senate, dated the 11th February, 1908, showing the amount of aluminum exported during the years 1903, 1904, 1905, 1906 and 1907, with the values of such exports for each one of the said years separately. Presented 28th February, 1908.—*Hon. Mr. Ellis*.. .. ..*Not printed.*

137. Regulations in virtue of the provisions of the Act 6-7 Edward VII., chapter 16, "The Electricity and Fluid Exportation Act." Presented 17th March, 1908, by Hon. W. Templeman.. .. ..*Not printed.*

138. Return to an order of the House of Commons, dated 22nd January, 1903, for a copy of all correspondence, documents, resolutions and other papers, which have passed between the Government of Canada, or any member of the Government, and any railway company or any individual relating to the building of a railroad from any point in Manitoba, Saskatchewan, Alberta, or British Columbia, to Fort Churchill or any point on Hudson Bay. Presented 2nd March, 1908.—*Mr. Schaffner*.. .. ..*Not printed.*

139. Copy of an order in council appointing Mr. Samuel Tovel Bastedo, agent on behalf of the Dominion Government, to confer with the provincial governments with a view to settlement of the Fisheries question. Presented 11th March, 1908.—*Hon. L. P. Brodeur. Not printed.*

140. Return to an order of the House of Commons, dated 12th February, 1908, for a copy of all correspondence, papers, writings, plans and letters between the Government and the International Waterways Commission, on one part, and the St. Lawrence Power Company and the Long Sault Development Company, of the other part, with regard to the entire damming of the St. Lawrence river, in the vicinity of Cornwall; together with a copy of all memorials, letters and resolutions of protest sent to the Government by the Board of Trade of Montreal, the Chambre de Commerce, District de Montreal, the Shipping Federation of Montreal, the Dominion Marine Association, and others. Presented 2nd March, 1908.—*Mr. Gervais*.. .. ..*Not printed.*

140*a*. Supplementary return to No. 140. Presented 13th July, 1908.. .. ..*Not printed.*

141. Return to an order of the House of Commons, dated 17th February, 1908, for a copy of advertisement calling for tenders for dredging work on Holland river, Trent Valley canal system, tenders received, schedules showing prics paid, recommendation of person for inspector, date of payments made to the contractors, and the contract with contractor. Presented 2nd March, 1908.—*Mr. Bennett*.. .. ..*Not printed.*

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CONTENTS OF VOLUME 18—*Continued.*

141a. Return to an order of the House of Commons, dated 13th January, 1908, showing what contracts for dredging in the St. Mary's river, Kaministiquia river, Mission river, Port Arthur harbour, Fort William harbour, and in Thunder Bay, or of any of the inlets or rivers thereof, have been let during the years 1904, 1905, 1906 and 1907, showing also: (*a*) the names, addresses and calling of all the tenderers in each case; (*b*) the amount of each tender; (*c*) the nature and extent of the work to be let in each case; (*d*) the names, addresses and calling of the successful tenderer in each case; (*e*) the prices at which each contract was let, (*f*) the nature or form of security for the due performance of the work in each case, and (*g*) the disposition of or change in the form of any such security after it was originally given or deposited; also, for a copy of all tenders, contracts, bonds or other securities, and of all correspondence relating or incident to all or any such tenders or contracts, including all correspondence relating to such contracts, or incident thereto, before and during the performance of the work and on file up to the date of the order for such return. Presented 17th July, 1908.—*Mr. Boyce.*
Not printed.

142. Return to an address of the House of Commons, dated 18th December, 1907, for a copy of all orders in council, correspondence, contracts, papers and reports in connection with the employment of certain experts to prepare a system of accounting and book-keeping in the Department of Marine and Fisheries. Presented 2nd March, 1908.—*Mr. Foster.*
Not printed.

143. Return to an order of the House of Commons, dated, 11th December 1907, for a copy of all correspondence in connection with the application, granting, operation or renewal of license and lease conveying the privileges of fishing in Cedar, Moose, Cormorant and Clearwater Lakes; also a copy of said license and lease. Presented 3rd March, 1908.—*Mr. Ames*.. .. ..*Not printed.*

144. Certain papers referring to Treaty Powers, &c. Presented 3rd March, by Hon. L. P. Brodeur.. .. ..*Printed for sessional papers.*

145. Return to an order of the House of Commons dated 11th March, 1907, for a copy of all papers, affidavits and correspondence between the Government, or any official thereof, with the Prince Edward Island Railway, or any official thereof, or any other persons in reference to the leasing of the properties of Widow James Wiggins and Charles Malley, at Alberton, Prince Edward Island. Presented 3rd March, 1908.—*Mr. Lefurgey.*
Not printed.

146. Return to an order of the House of Commons, dated 11th December, 1907, showing the total amount of money paid yearly from the year 1892 to 1st December, 1907, on each of the following accounts: (*a*) Salary of Governor General; (*b*) Travelling expenses of Governor General; (*c*) Expenditure on Rideau Hall, capital account; Expenditure on Rideau Hall, maintenance; Expenditure on Rideau Hall grounds, capital account; Expenditure on Rideau Hall grounds, maintenance; (*d*) Expenditure on furnishings of all kinds for Rideau Hall; (*e*) Expenditure on any other account in connection with the office of Governor General; (*f*) Expenditure on any other account in connection with Rideau Hall and grounds; (*g*) Total expenditure of every kind yearly since 1892 in connection with the office of Governor General; (*h*) Total expenditure of every kind yearly in connection with Rideau Hall grounds. Presented 5th March, 1908.—*Mr. Wilson (Lennox and Addington)*.. .. ..*Not printed.*

147. Return to an address of the House of Commons, dated 15th January, 1908, for a copy of all correspondence, telegrams, orders in council, contracts and tenders, with the names, and amounts of each, in possession of the Government, or any member or official thereof, respecting the construction of a breakwater at Petit Rocher, on the south-western side of Baie des Chaleurs, as detailed on page 74 of the Report of the Minister of Public Works for the year ended 31st March, 1907. Presented 5th March, 1908.—*Mr. Taylor*.. .. ..*Not printed.*

147a. Supplementary Return to 147. Presented 12th June, 1908.. .. ..*Not printed.*

CONTENTS OF VOLUME 18—*Continued.*

148. Return to an order of the House of Commons, dated 17th February, 1908, showing the individual name and place of residence of the captain and crew of each of the Government steamers *Lansdowne, Aberdeen, Druid, Brant, Lady Laurier, Minto* and *Stanley*. Presented 5th March, 1908.—*Mr. Stanfield*.. .. ..*Not printed.*

148*a*. Return to an order of the Senate, dated the 5th of February, 1908, for a statement showing, in so many columns: 1. The names of the officers actually employed on board of Government vessels or of vessels hired by the Government for the season of navigation in the River St. Lawrence. 2. The amount of wages or salaries paid monthly to each of them for the period of their annual engagement. 3. The amount of wages or salaries paid monthly to those who are only employed for a part of the year. 4. The amount of wages or salaries paid monthly to those who, over and above their real service, are paid a part of their wages or salaries during the months in which the vessels are laid up for the winter. Presented 20th February, 1908.—*Hon. Mr. Landry.*
Not printed.

149. Return showing what changes have occurred in the House of Commons branches of the Clerk of the House and the Sergeant-at-arms' service since 1st July, 1907. Presented 5th March, 1908.—*Mr. Owen*.... .. ..*Not printed.*

150. Return to an order of the House of Commons, dated 10th February, 1908, showing: 1. How many Returns or Sessional Papers have been presented to Parliament in answer to motions for the same, since the 1st of January, 1906. 2. How many of these Returns were taken out of the Office of Routine and Records, and the Journal Office, by members of this House, since the above date, giving also the name of the member to whom delivered. 3. For what length of time such Returns were retained by the members who obtained them. 4. How many of these Returns had not been returned to the proper officer of the House of Commons on the 1st of January, 1908. 5. In the case of those returned, how long they were out with the members. 6. How many of these Returns are still in the possession of the members, and how long they have had them. 7. The means usually adopted by the Clerk of Routine and Records and the Clerk of Current Sessional Papers to have outstanding returns retransferred to their possession. 8. The average cost to the country of preparing these Returns by the various departments interested, during the above period. Presented 6th March, 1908.—*Mr. Johnston.*
Not printed.

151. Return to an order of the House of Commons, dated 16th December, 1907, showing: 1. The number of fishing licenses, the names of the parties to whom issued, and also the amounts of the revenues received from each license, on any or all of the lakes in the province of Saskatchewan. 2. For a copy of all correspondence in connection with each license so issued and in force, or about to be issued. 3. Also for a copy of the different forms used for fishing licenses in the province of Saskatchewan. Presented 9th March, 1908.—*Mr. Chisholm (East Huron)*.. .. ..*Not printed.*

152. Return to an order of the House of Commons, dated 20th January, 1908, for a copy of all correspondence, documents and papers, in the investigation into the case of Mr. O. S. Finnie, chief clerk in the gold commissioner's office, Dawson, Y.T. Presented 6th March, 1908.—*Mr. Thompson*.. .. ..*Not printed.*

153. Return to an order of the House of Commons, dated 19th February, 1908, for a copy of all correspondence between Lieut.-Colonel Mallette, of the 64th Battalion, and the Department of Militia and Defence, concerning Major Sabourin, of St. John, Quebec. Presented 6th March, 1908.—*Mr. Bergeron*.. .. ..*Not printed.*

153*a*. Return to an order of the House of Commons, dated 19th February, 1908, for a copy of all correspondence between Lieut.-Colonel Mallette, of the 64th Battalion, and the Department of Militia and Defence, for the organization of a regiment in Valleyfield, Quebec. Presented 6th March, 1908.—*Mr. Bergeron*.. .. ..*Not printed.*

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CONTENTS OF VOLUME 18—*Concluded.*

154. Report of the Royal Commission on the Quebec Bridge inquiry; also the Report on the Design of the Quebec Bridge by C. C. Schneider; with Appendices. Presented 9th March, 1908, by Hon. G. P. Graham.

Printed for both distribution and sessional papers

CONTENTS OF VOLUME 19.

154. (Vol. 2.) Royal Commission Quebec Bridge inquiry. Minutes of proceedings. Evidence and exhibits.. .. ..*Printed for both distribution and sessional papers.*

154*a*. Return to an address of the House of Commons, dated 12th December, 1907, for a copy of all orders in council, correspondence, reports, memoranda, papers and documents, since the 1st day of January, 1900, relating to the Quebec Bridge, including all reports and orders in council, relating to the plans and specifications for the works of the undertaking, or to any approval thereof by the Governor in Council, or by the Department of Railways and Canals. Presented 26th May, 1908.—*Mr. Borden (Carleton).*

See No. 154.

154*b*. Return to an address of the Senate, dated 29th Januray, 1908, for a statement showing: 1. If the Quebec Bridge and Railway Company has fulfilled the obligation which was imposed upon it by clause 4 of the agreement made, between it and the Government, on the 19th day of October, 1908, which clause reads as follows: "4. The company will procure subscriptions for additional stock to the amount of $200,000, such new stock to be issued at a price not below par and to be immediately paid up in full, the proceeds to be applied in the first place to the payment of the discount at which the bonds of the company were issued as aforesaid, to wit the sum of $188,721." (Being exactly the difference between the sum of $472,000, the amount of bonds issued, and the sum of $283,279, for which these same bonds were accepted.) 2. When did the company so furnish subscriptions for additional work to the amount of $200,000. 3. Who are the persons or the companies who divided among them this additional stock to the round sum of $200,000. 4. On what date and for what amount did each of these persons or each of these companies become owner of the aforesaid stock. 5. On what date did each of the aforesaid persons or companies pay into the hands of the company the price (in part or in whole) of the stock so subscribed. 6. And if this amount of $200,000 was paid in full and in what manner, distinguishing the amount paid in cash from the amount paid in promissory notes or in any other ways. Presented 2nd June, 1908.—*Hon. Mr. Landry*.. .. ..*See No. 154.*

154*c*. Return to an address of the Senate, dated the 29th January, 1908, showing: 1. The amount of money really paid by each of the present directors of the Quebec Bridge and Railway Company into the capital stock of the said company. 2. The date each of these directors made each of his payments. 3. Among these payments or instalments the proportion or amount that has been paid by means of promissory notes or of unaccepted cheques. 4. By whom individually, and for what amount each one. 5. The amount of money each of its directors has received from the Quebec Bridge Company and from the Quebec Bridge and Railway Company up to this date, directly or indirectly, personally or otherwise. 6. The nature of the services rendered for which each of these amounts was paid. 7. The amount the present secretary has received out of the funds of the company since he has been in the service thereof. 8. The resolution that subsequently to the collapse of the Quebec Bridge, within a few days immediately following the disaster, the bridge company has voted giving a bonus of $3,000 to its president. 9. The name of the funds, out of which the amount of this bonus was raised. 10. The resolution, if any, the company, on the same occasions, voted to aid the families of the victims of that disaster. Presented 18th February, 1908.—*Hon. Mr. Landry.*

Not printed.

155. Return to an order of the House of Commons, dated 10th February, 1908, showing what land has been withdrawn for settlement, or set apart, or sold, for colonization pur-

CONTENTS OF VOLUME 19—*Continued.*

poses, since 1896; the location and amount in each case, specifying townships, sections, half or quarter-section; to whom it has been sold, or alienated, and on what terms of settlement; the price per acre, on terms of payment, and the nationality of the settlers in each colony; when the land was sold, alienated, reserved, or set apart, for such purpose, in each case; and how many of these companies have complied with their contracts, and to what extent. Presented 9th March, 1908.—*Mr. Sproule*... ..*Not printed*

155*a*. Return to an order of the House of Commons, dated 26th February, 1908, showing what lands, if any, have been reserved for grazing purposes or for acquisition by means of irrigation within the tract described as follows: Townships 12 to 19, inclusive, in ranges 15 to 21, west of the 4th meridian; and when such lands were so reserved, and for how long it is the purpose of the Government to continue such reservation. Presented 16th March, 1908.—*Mr. Lennox*.. .. ..*Not printed.*

155*b*. Return to an order of the House of Commons, dated 11th March, 1908, for a copy of all correspondence, telegrams, reports, applications, surveyors' plans and maps, in reference to the homestead entries for the southwest quarter of section 27, township 18, range 10, east, in the province of Manitoba. Presented 27th March, 1908.—*Mr. Staples.* *Not printed.*

155*c*. Return to an order of the House of Commons, dated 29th January, 1908, for a copy of all correspondence, applications, recommendations for patent, and all papers in any way relating to the disposal of or granting of privileges in connection with the s.e. ¼ of section 2, township 8, range 2, west of the 5th meridian. Presented 3rd April, 1908.—*Mr. Herron*... .. ..*Not printed.*

155*d*. Return to an order of the House of Commons, dated 23rd March, 1908, for a copy of all correspondence, applications and all other papers and documents relating in any way to any and all applications for or in connection with or relating to the southeast quarter of section 14, township 12, range 6, west 4th meridian. Presented 6th April, 1908.—*Mr. Herron*.. .. ..*Not printed*

156. Return to an order of the House of Commons, dated 2nd March, 1908, showing who made the seizures under the Inland Revenue Department in the fiscal years 1906 and 1907, in Cornwall, London, Ottawa, St. Catharines, Toronto, Joliette and Montreal, and what the seizures consisted of; the name of the party or parties from whom the material was seized; the amount realized by the sale of such seized material; and how this seized material was disposed of. Presented 9th March, 1908.—*Mr. Barr.* *Not printed*

156*a*. Return to an order of the House of Commons, dated 26th February, 1908, showing the number of seizures under the Inland Revenue Department in the years 1906 and 1907, the name of the party or parties making the seizure; the description and quantity of material seized; the name of the parties from whom the material was seized; how the seized material was disposed of, whether by public auction or by private sale, and what the amount realized thereon was. Presented 9th March, 1908.—*Mr. Barr*...*Not printed*

156*b*. Return to an order of the House of Commons, dated 9th March, 1908, showing the number of seizures made by the Customs Department for the fiscal years 1905, 1906 and 1907; the reason for each seizure; the disposition of each case; the amount received by the Government, and by the party seizing or giving information in each case; and the names of the ports at which such seizures took place. Presented 23rd April, 1908.—*Mr. Cockshutt*.. .. ..*Not printed.*

156*c*. Return to an order of the House of Commons, dated 4th May, 1908, showing the names of all officers employed in the Customs Department at the ports of Niagara Falls, Port Erie, Sarnia and Windsor; the rank and duties of their respective appointments, their salaries at the time of appointment, present rank, and increase of salary to any of these officers since date of their appointment. Presented 4th May, 1908.—*Hon. W. Paterson*.. .. ..*Not printed*

CONTENTS OF VOLUME 19—*Continued.*

157. Return to an order of the House of Commons, dated 8th January, 1908, for copies of all documents, petitions, memoranda and correspondence received by the Government since 1904, to this day, regarding the amendments to be made to the Inland Revenue Act for the purpose of encouraging and protecting still more the Canadian tobacco industry. Presented 9th March, 1908.—*Mr. Dubeau*.. .. ..*Not printed*

157*a*. Return to an order of the House of Commons, dated 12th February, 1908, for a copy of all correspondence between the collector of customs at Charlottetown, Prince Edward Island, and the Minister of Customs, or the Commissioner of Customs, including declarations or statements in writing made by Messrs. Donald Nicholson and Evelyn B. Harnett, of the Hickey & Nicholson Tobacco Company, Limited, respecting alleged infraction of the provisions of the Inland Revenue Act, and of the regulations in respect of tobacco and cigars and tobacco and cigar manufactories, by Messrs. T. B and D. J. Riley, of Charlottetown, or one of them. Also a copy of the reports of William Caven and other officials and collectors of Inland Revenue; and of all correspondence, letters and telegrams between the said T. B. and D. J. Riley, or either of them, and the Government, or any department, or officer thereof; and of all correspondence between the officers of Inland Revenue in Charlottetown and the Government or any department or official thereof, respecting said alleged infraction of said Act or regulations; and all other correspondence, statements and information in possession of the Government relating to the matter aforesaid; together with a statement of the moneys paid voluntarily or otherwise in settlement or otherwise of penalties for such infraction of the law, to whom paid, and the date of payment. Presented 16th March, 1908.—*Mr. McLean (Queen's)*.. .. ..*Not printed.*

158. Papers relating to Trade Conference at Barbados. Presented 10th March, 1908, by Hon. W. S. Fielding.... .. ..*Not printed.*

159. Return to an order of the House of Commons, dated 29th January, 1908, for a copy of all applications, tenders, correspondence, telegrams, or written communications of any kind, in connection with the sale of certain lands in the Ocean Man, Pheasant Rump, and Chasastapsin Indian Reserves, on the 15th November, 1901; together with a copy of advertisements of sales, the names of the newspapers in which they were inserted, and the dates of insertion. Presented 12th March, 1908.—*Mr. Lake*.. .. ..*Not printed.*

160. Return to an order of the House of Commons, dated 22nd January, 1908, showing how many fire extinguishers were purchased by the Government for the different departments of the public service since the 30th June, 1906, to January 1st, 1908; from whom they were purchased, and at what price; and the total amount paid for the same. Presented 12th March, 1908.—*Mr. Taylor*.. .. ..*Not printed.*

160*a*. Supplementary Return to an order of the House of Commons, dated 22nd January, 1908, (as far as the Department of Marine and Fisheries is concerned), showing how many fire extinguishers were purchased by the Government for the different departments of the public service since the 30th of June, 1906, to 1st January, 1908; from whom they were purchased, and at what price; and the total amount paid for the same. Presented 26th March, 1908.—*Mr. Taylor*.. .. ..*Not printed.*

161. Return to an order of the House of Commons, dated 22nd January, 1908, for a copy of all letters, correspondence, plans, surveys, estimates, &c., in connection with the proposal to open a waterway in St. Anicet and Ste. Barbe, in the county of Huntingdon, from Lake St. Francis to St. Louis River. Presented 12th March, 1903.—*Mr. Walsh. (Huntingdon)*.. .. ..*Not printed.*

162. Return to an order of the House of Commons, dated 12th March, 1908, for copies of all correspondence between the Auditor General and the Department of Marine and Fisheries, concerning the travelling expenses of Commander Spain in 1905-6. Presented 12th March, 1908.—*Hon. L. P. Brodeur*.. .. ..*Not printed.*

CONTENTS OF VOLUME 19—*Continued.*

163. Return to an order of the House of Commons, dated 12th February, 1908, showing: 1. The total revenue of Belleville, Ontario, Harbour, for the years 1903, 1904, 1905, 1906 and 1907. 2. The expenditure for the years above-mentioned in the harbour; (*a*) for salaries, and to whom, (*b*) dredging in each year; (*c*) for building retaining walls along the river at entrance of harbour; and (*d*) to whom or what persons such last-named sums were paid. 3. What money, if any, the Government has advanced to the Harbour Commissioners of Belleville for improvements, how much and when. 4. If any money has been advanced, what security the Government holds for repayment of the same. 5. The tenders received for building the retaining walls for improvement of Belleville Harbour, the tenderers, the amount of each tender, and to whom the contract was awarded. Presented 13th March, 1908.—*Mr. Porter*.. .. ..*Not printed.*

164. Copy of the order in council appointing Mr. Richard L. Drury, of Victoria, B.C., as a special officer of the Immigration Branch of the Department of the Interior in Japan. Presented 17th March, 1908, by Sir Wilfrid Laurier.. .. ..*Not printed.*

165. Return to an order of the House of Commons, dated 19th February, 1908, for a copy of all letters, telegrams, reports, documents and papers (so far as the same are not of a confidential character) in relation to the trial and conviction of one Frederick Blunden, for cattle stealing at Macleod, in the province of Alberta, in 1904. Presented 19th March, 1908.—*Mr. Ward*.. .. ..*Not printed.*

166. Return to an order of the Senate, dated the 17th March, 1908, for a copy of the Minutes of the meeting of the Standing Committee of the Senate on Railways, Telegraphs and Harbours, held on the 21st and 22nd of May, 1901, be laid on the table. Presented 18th March, 1908.—*Hon. Mr. Landry*.. .. ..*Not printed.*

167. Return to an order of the House of Commons, dated 23rd March, 1908, for a copy of the interim report of the commissioner appointed to investigate alleged irregularities at Sorel in connection with construction of piers on Lake St. Peter. Presented 23rd March, 1908.—*Hon. L. P. Brodeur*.. .. ..*Not printed.*

168. Return to an order of the House of Commons, dated 20th January, 1908, showing all fines imposed for violation of the Fisheries Act in Division No. 2, Nova Scotia, comprising the counties of Antigonish, Colchester, Cumberland, Guysborough, Halifax, Hants and Pictou, showing the amount of each fine, dates on which same were imposed and paid, the place of trial in each case, the offence charged, and the names of the convicting justices or fishery officers. Presented 23rd March, 1908.—*Mr. Sinclair.*
Not printed.

169. Return to an address of the House of Commons, dated 11th March, 1908, for a copy of all orders in council, reports, correspondence, documents, letters and papers not already brought down, relating to a grant by His Majesty of any Indian reserves in the province of British Columbia to the Grand Trunk Pacific Railway Company, or to any officer of the company, or to any person on behalf of that company. Presented 24th March, 1908.—*Mr. Borden (Carleton)*.. .. ..*Printed for sessional papers*

170. Return to an order of the House of Commons, dated 20th January, 1908, showing the amount paid each year for provisions on each of the Government steamers for the last three fiscal years, the average complement of officers and men provisioned on each for each year, and the cost per man per day. Presented 24th March, 1908.—*Mr. Foster.*
Not printed.

171. Return to an order of the House of Commons, dated 12th February, 1908, for a copy of all petitions and correspondence relating to the establishment of a post office at Mill Settlement, West, and also at north side of Newcastle Creek, in the electoral division of Sunbury and Queen's. Presented 26th March, 1908.—*Mr. Wilmot*.. .. ..*Not printed.*

CONTENTS OF VOLUME 19—*Continued.*

171*a*. Return to an order of the House of Commons, dated 11th March, 1908, for a copy of all letters, petitions, correspondence and other papers in connection with the application to establish a post office at North Grove, in the county of Grenville. Presented 3rd April, 1908.—*Mr. Reid (Grenville)*.. .. ..*Not printed.*

171*b*. Return to an order of the House of Commons, dated 29th January, 1908, for a copy of all letters, telegrams and petitions, in possession of the Government, or any member or official thereof, respecting the dismissal of Mrs. Mary Finlay as postmistress at the head of St. Peter's Bay, and the appointment of her successor. Presented 3rd April, 1908.—*Mr. Martin (Queen's)*.. .. ..*Not printed.*

171*c*. Return to an order of the House of Commons, dated 18th December, 1907, showing the number of post offices receiving daily, tri-weekly, semi-weekly, and weekly mails, in each county of the provinces of New Brunswick and Nova Scotia, and the total postal revenue and expenditure in each of said counties. Presented 3rd April, 1908.—*Mr. Crocket*.. .. ..*Not printed.*

171*d*. Return to an order of the House of Commons, dated 16th March, 1908, for a copy of all correspondence, telegrams, petitions, &c., in possession of the Government or any member or official thereof, respecting the dismissal of Archibald McDonald as postmaster at Whim Road Cross, Prince Edward Island, and the appointment of William McGinnon as his successor. Presented 3rd April, 1908.—*Mr. Martin (Queen's).*
Not printed.

171*e*. Return to an order of the House of Commons, dated 11th December, 1907, showing what complaints respecting the inadequacy of postal service or delays therein, or respecting lack of or defects in postal facilities or means of communications, have been received by the Post Office Department since the 1st day of January, 1907, and the general nature of such complaints. Presented 29th April, 1908.—*Mr. Armstrong.*
Not printed

171*f*. Return to an order of the House of Commons, dated 9th March, 1908, for a copy of all petitions, letters of recommendation, written requests and correspondence with the government in connection with the opening of a Post Office Savings Bank in the post office at St. Gabriel de Brandon, in the province of Quebec. Presented 29th April, 1908.—*Mr. Monk*.. .. ..*Not printed.*

171*g*. Return to an order of the House of Commons, dated 9th March, 1908, for a copy of all correspondence, telegrams, petitions with signatures thereto, in possession of the Government, or any member or official thereof, respecting the removal of a post office from Angus McDonald's place in Pisquid, Prince Edward Island, to Russell Birt's, of the same place. Presented 29th April, 1908.—*Mr. Martin (Queen's)*.. .. ..*Not printed.*

171*h*. Return to an order of the House of Commons, dated 16th March, 1908, for a copy of all correspondence ,telegrams and petitions in the possession of the Government or any member or official thereof, respecting the dismissal of Alex. McLeod in 1905, as postmaster at Valleyfeld East, Prince Edward Island, and the appointment of his successor. Presented 29th April, 1908.—*Mr. McLean (Queen's)*.. .. ..*Not printed*

171*i*. Return to an address of the House of Commons, dated 26th February, 1908, for a copy of all correspondence, telegrams, reports, memoranda, resolutions and any information in the possession of the Government, relating to changes in postal charges or regulations within the past two years, between the United States and Canada. Presented 5th May, 1908.—*Mr. Armstrong*.. .. ..*Not printed*

171*j*. Return to an order of the House of Commons, dated 13th January, 1908, for a copy of all correspondence, telegrams, reports and memoranda, in possession of the Government, or any member or official thereof, respecting the establishment of daily mails and improvement of the mail service in the county of Queen's, Prince Edward Island. Presented 26th May, 1908.—*Mr. Martin (Queen's)*.. .. ..*Not printed.*

CONTENTS OF VOLUME 19—*Continued.*

172. Return to an order of the House of Commons, dated 26th February, 1908, showing what sums of money were paid during the fiscal years 1905-6 and 1906-7 by any department of the Government to the Steel Concrete Company, Limited; for what purpose such payments were made; what orders for work or material to be done or supplied by that company are now being filled, and the aggregate amount payable for same. Presented 26th March, 1908.—*Mr. Boyce*.. .. ..*Not printed.*

173. Return to an order of the House of Commons, dated 9th March, 1908, showing how many renewals of placer claims were granted by the Gold Commissioner at Dawson, on or subsequent to the 1st of August, 1906, at $10 each; why the fee of $15, as required by 6 Edward VII., chapter 39, was not collected in these cases; and what shortages were afterwards collected. Presented 27th March, 1908.—*Mr. Lennox*.. .. .. ..*Not printed.*

173a. Return to an order of the House of Commons, dated 9th March, 1908, showing how many renewals of placer claims were granted by the Assistant Gold Commissioner at Whitehorse on or subsequent to 1st of August, at $10 each; why the fee of $15, as required by 6 Edward VII., chapter 39, was not collected in these cases; and what shortages have been collected. Presented 30th March, 1908.—*Mr. Lennox*..*Not printed.*

174. Return to an order of the House of Commons, dated 8th January, 1908, showing: 1. What sums of money have been paid for advertising and printing, respectively, to the *Sun* and *Star* newspapers of St. John, N.B., the *Chronicle* of Halifax, the *Echo* and the Glace Bay *Gazette*, and the St. John *Globe*, during the following periods respectively: the fiscal years 1904-5, 1905-6, and from June 30, 1906, to date. 2. In what offices or job offices the printing is done for the *Sun, Star, Chronicle* and *Echo*. Presented 30th March, 1908.—*Mr. Foster*.. .. ..*Not printed.*

174a. Return to an order of the House of Commons, dated 13th June, 1908, showing all sums of money paid by the Government, or any department or official thereof, during the years 1902, 1903, 1904, 1905, 1906 and 1907, for advertising, printing, or for any other purpose, or on any other account whatever, to the *Sault Express*, a newspaper published at Sault Ste. Marie, Ontario, or to any person or persons, firm or company for or in respect of any work done by said newspaper for the Government, or any department or official thereof; also showing what amounts, if any, are disputed and unpaid, and showing for what purpose such moneys were paid, and accounts were incurred, respectively, and by what departments, or officials of the Government. Presented 30th March, 1908.—*Mr. Boyce*.. .. ..*Not printed.*

174b. Return to an order of the House of Commons, dated 22nd January, 1908, showing what amount has been paid by the Dominion Government for all purposes, from 1st January, 1904, to 1st January, 1908, to the following papers: *Alberta Star*, Cardston; *Lethbridge Herald, Macleod Advance, Nanton News, The Frank Paper*. Presented 30th March, 1908.—*Mr. Herron*.. .. ..*Not printed.*

175. Return to an order of the House of Commons, dated 15th January, 1908, showing the various services on which Mr. Shepley, K.C., has been engaged by the Government since 1896, and the amount that has been paid him for salary and expenses for each. Presented 30th March, 1908.—*Mr. Foster*.. .. ..*Not printed.*

176. Return to an address of the House of Commons, dated 16th March, 1908, for a copy of all orders in council, letters, telegrams, correspondence and papers of every description and nature relating to the appointment of the Hon. Arthur Drysdale as justice of the Supreme Court of Nova Scotia, and especially all such documents as relate to the date of his acceptance of said appointment or the date of his declaration of intention to accept the same. President 30th March, 1908.—*Mr. Taylor*.. .. ..*Not printed.*

177. Return to an order of the House of Commons, dated 23rd March, 1908, showing how much has been paid to C. Boone or the Boone Company, since 1896, and the amount paid for work in each year at each point where same was performed by said party, firm or company. Presented 30th March, 1908.—*Mr. Bennett*.. .. ..*Not printed.*

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178. Maps and plans in connection with the Montreal, Ottawa and Georgian Bay Canal. Presented 30th March, 1908, by Hon. W. Pugsley.. .. ..*See 178b.*

178*a*. Further maps and plans in connection with the Montreal, Ottawa and Georgian Bay Canal. Presented 13th May, 1908, by Hon. W. Pugsley.. .. ..*See 178b.*

178*b*. Return to an order of the House of Commons, dated 6th July, 1908. Report of the engineer on the Georgian Bay Ship Canal, together with estimates, plans, &c., illustrating the project in its main features. Presented 6th July, 1908.—*Hon. W. Pugsley.*
Printed for both distribution and sessional papers.

179. Return to an order of the Senate, dated the 12th February, 1908, for a copy of: 1. The number of convicts under the age of twenty, and their respective nationalities. 2. The number of convicts from the age of twenty and upwards, and their nationalities, in each of the penitentiaries under Dominion control, for the years 1903, 1904, 1905, 1906 and 1907. Presented 31st March, 1908.—*Hon. Mr. Comeau*.. .. ..*Not printed.*

180. Return to an order of the Senate, dated the 18th February, 1908, showing with respect to the two routes of the Transcontinental Railway that were surveyed between Grand Falls and Chipman, in the province of New Brunswick, the estimated cost of each of the lines, that is to say: 1. The "Back Route," so-called. 2. The St John Valley route. With the following details: (*a*) Cubic yards of ordinary excavation and fills; (*b*) cubic yards of loose rock; (*c*) cubic yards of solid rock; (*d*) cubic yards of concrete; (*e*)miles of steel trestle and cost; (*f*)number and cost of bridges. And with respect to the "Back Routes," giving the last-mentioned details as regards the following subdivisions of that route: 1. Grand Falls and Tobique River. 2. Tobique River and Intercolonial Railway. 3. Intercolonial Railway and Chipman. And is it the intention to adopt a pusher grade in the route selected? Presented 31st March, 1908.—*Hon. Mr. Thompson*.. .. ..*Not printed.*

181. Return to an order of the House of Commons, dated 6th February, 1907, for a copy of all letters, accounts, vouchers, cheques, correspondence and documents relating to any amount paid to Mr. R. T. McIlreith, barrister, of Halifax, for legal services, by the Government of Canada, during each of the fiscal years ending, respectively, 30th day of June, 1902, 1903, 1904, 1905 and 1906. Also relating to all amounts similarly paid to any legal agent or representative of the Government at Halifax during each of the fiscal years ending respectively, 30th June, 1891, 1892, 1893, 1894, 1895, 1896 and 1897. Presented 1st April, 1908.—*Mr. Crocket*.. .. ..*Not printed.*

181*a*. Supplementary return to No. 181. Presented 3rd April, 1908.. .. ..*Not printed.*

182. Copy of order in council relative to the appointment of the Honourable Walter Cassels, a commissioner to investigate and report upon certain statements contained in the Report of the Civil Service Commission, reflecting upon the integrity of the officials of the Department of Marine and Fisheries. Presented 2nd April, 1908, by Sir Wilfrid Laurier.. .. ..*Not printed.*

182*a*. Correspondence between Sir Wilfrid Laurier and the Honourable Mr. Justice Cassels on the subject of the appointment of the latter to investigate and report upon certain statements contained in the Report of the Civil Service Commission, reflecting on the integrity of the officials of the Department of Marine and Fisheries. Presented 7th April, 1908, by Sir Wilfrid Laurier.. .. ..*Not printed.*

182*b*. Correspondence between the Honourable Mr. Aylesworth and the Honourable Mr. Justice Cassels on the subject of the appointment of the latter to investigate and report upon certain statements contained in the Report of the Civil Service Commission, reflecting on the integrity of the officials of the Department of Marine and Fisheries. Presented 19th April, 1908, by Sir Wilfrid Laurier.. .. ..*Not printed.*

182*c*. Letter of instructions from the Minister of Justice to George H. Watson, Esq., K.C., respecting the appointment of the latter as counsel to act with Honourable Mr. Justice Cassels in the investigation upon certain statements contained in the Report of the

CONTENTS OF VOLUME 19—*Continued.*

Civil Service Commission, reflecting on the integrity of the officials of the Department of Marine and Fisheries. Presented 1st May, 1908, by Hon. A. B. Aylesworth. *Not printed.*

182*d*. Return to an order of the House of Commons, dated 15th January, 1908, showing all commissions of inquiry appointed between 1896 and 1908, the dates of appointment thereof, the names of the commissioners appointed and the secretary and counsel, or others appointed to assist them, the purpose or object of each such commission, the date of report of each such commission, what legislation, if any, has been enacted in consequence of such commissions and reports, the cost of each such commission, including salaries, travelling expenses, witness fees, fees of counsel, and other assistants, and for printing, distinguishing each separately. Presented 5th May, 1908.—*Mr. Porter.* *Not printed.*

183. Return to an order of the House of Commons, dated 18th December, 1907, showing the various Marconi stations established by the Government, their location, the cost of construction and maintenance of each, the messages sent by each, the rate of tolls and the receipts, and all contracts, reports, papers and correspondence, in connection therewith. Presented 3rd April, 1908.—*Mr. Foster*.. .. ..*Not printed*

183*a*. Supplementary Return to No. 183. Presented 11th May, 1908.. .. ..*Not printed.*

184. Return to an order of the House of Commons, dated 17th February, 1908, showing what quality or quantity of goods or supplies have been furnished by the Office Specialty Company to the Dominion of Canada in every department of the service since 1896, and the total amount for each year. Presented 3rd April, 1908.—*Mr. Bennett*..*Not printed.*

185. Return to an address of the House of Commons, dated 19th February, 1908, for a copy of a memorial addressed to His Excellency the Governor General, respecting a reference to the Privy Council in regard to the constitutionality of the Saskatchewan Act passed by the Legislative Assembly of the province of Saskatchewan on the 23rd May, 1906; together with a copy of all correspondence, telegrams or other communications, relating thereto, between the Dominion Government or any member thereof, and the Government of Saskatchewan or any member thereof. Presented 31st March, 1908.—*Mr. Lake*.. .. ..*Printed for sessional papers.*

186. Return to an order of the House of Commons, dated 29th January, 1908, for a copy of all reports, plans, specifications, tenders, correspondence, telegrams, and all other papers, documents, and other information in connection with the construction of the Hillsboro' Bridge and approaches, including land purchases necessary therefor. Presented 6th April, 1908.—*Mr. Lefurgey*.. .. ..*Not printed.*

187. Return to an order of the House of Commons, dated 10th February, 1908, showing what action, if any, has been taken by this Government since 19th March, 1903, which would have for its object the removal of the cattle embargo upon Canadian cattle entering Great Britain. 2. For a copy of a resolution said to have been passed some years ago by the committee on agriculture, which requested that the Minister of Agriculture of the Dominion should invite the ministers of the different provinces in the Dominion to form themselves into a committee, whose object was to lay before the Government of Great Britain the importance of removing the cattle embargo. 3. Also showing what efforts, if any, have been made by the Minister of Agriculture to comply with the wishes of the above-named committee so expressed; together with a copy of the report, if any, of the same to the House, and what efforts have been so made; with what reason, if any, the Government assigns for not taking action in the matter. Presented 6th April, 1908.—*Mr. Armstrong*.. .. ..*Not printed.*

188. Census and Statistics, Bulletin V., Agricultural Census of Ontario, Quebec and the Maritime Provinces, 1907. Presented 6th April, 1908, by Hon. S. A. Fisher. *Not printed.*

CONTENTS OF VOLUME 19—*Continued.*

189. Return to an address of the House of Commons, dated 30th March, 1908, for a copy of all memorials, documents, telegrams, and correspondence between the government of Prince Edward Island and the Government of Canada since 30th June, 1904, with respect to the non-fulfilment of the terms of union and for claims for damages in respect thereof. Presented 7th April, 1908.—*Mr. McLean (Queen's)*.. .. ..*Not printed.*

190. Return to an order of the House of Commons, dated 17th February, 1908, for a copy of all correspondence, telegrams, reports, memoranda, resolutions, and any other information in possession of the Government or any member or official thereof, respecting the construction of branch railway lines in Prince Edward Island. Presented 13th April, 1908.—*Mr. Martin (Queen's)*.. . .. .*Not printed.*

191. Return to an address of the House of Commons, dated 30th March, 1908, for a copy of all orders in council, reports, documents, correspondence and papers, from the 1st day of January, 1907, to the present time, relating to the passage of United States war ships or training ships through the St. Lawrence canals and Great Lakes, including a statement showing the number of United States war ships or training ships which have passed through the St. Lawrence canals during that period, and a statement of all such war ships or training ships now on the Great Lakes, and particulars of the tonnage, horse-power, armament and crew of such war ship or training ship, and of the naval reserves or other naval forces of the United States Government, or of any State Government upon the Great Lakes; also all correspondence respecting the proposed passage of the gunboat *Nashville* through the St. Lawrence canals and river on her way to the Great Lakes next summer. Presented 7th April, 1908.—*Mr. Taylor.*
Not printed.

192. Return to an address of the House of Commons, dated 29th January, 1908, for copies of all papers, representations, memorials and correspondence had with the Minister of Finance or any member of the Government in reference to the proposed action of the Government through or in conjunction with the banks, to facilitate in a financial way the movements of the grain from the western provinces of Canada. Presented 7th April, 1908.—*Mr. Foster*.. .. ..*Not printed.*

193. Return to an order of the House of Commons, dated 11th December, 1907, showing: 1. How many drill halls have been constructed or are under construction by the Government since 1896. 2. In what localities these buildings have been constructed, and the cost of construction in each case. 3. What military organizations exist in the respective localities in which these drill halls have been erected, and the numerical strength of each such military organization. Presented 7th April, 1908.—*Mr. Worthington.*
Not printed.

194. Return to an address of the House of Commons, dated March, 1908, for a copy of all orders in council and regulations made by the Governor in Council, or prescribed by the Minister of Customs under the provisions of chapter eleven (11) of the Acts of 1907, (6 and 7 Edward VII.), relating to materials to be used in Canada for the construction of bridges or tunnels crossing the boundary between the United States and Canada, and all similar regulations or legislative or administrative provisions of the United States Customs Laws relating to such materials. Presented 8th April, 1908.—*Mr. Clements*.. .. ..*Not printed.*

195. Return to an order of the House of Commons, dated 15th January, 1908, for a complete list of the publications in Canada enjoying the newspaper rate. Presented 8th April, 1908.—*Mr. Cockshutt*.. .. ..*Not printed.*

196. Partial Return to an order of the Senate, dated the 17th March, 1908, for a copy of the service-roll of the Garrison Artillery Companies of Ottawa and Morrisburg, giving names of the militiamen who were on active service, and who were in barracks at Fort Wellington, Prescott, during the months of November and December, 1865, and during the months of January, February, March, April, May and June, 1866; and also a

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statement showing what was the daily pay paid to the soldiers of these two corps and that which the militiamen belonging to Company No. 2 of the Ottawa Field Battery received at the same time, or that which was received by other corps of the Military District of Ottawa, which were also called out for active service. Presented 8th April, 1908.—*Hon. Mr. Landry*.. .. ..*Not printed.*

197. Return to an address of the House of Commons, dated 16th March, 1908, for a copy of all orders in council, reports, memoranda, agreements, contracts and other documents and papers of every kind, nature and description, from the 1st of January, 1900, up to the present time, relating to or touching the Dolkese or Dokis Indian reserve, or touching the surrender thereof of the timber thereon, and especially all such documents as aforesaid as relate to any proposals or arrangements for the surrender of any rights by the Indians in the said reserve or in the timber thereon, or to the sale or disposal of the said timber or any part thereof. Presented 9th April, 1908.—*Mr. Borden (Carleton).* *Not printed.*

197*a*. Supplementary return to No. 197. Presented 2nd July, 1908.. .. ..*Not printed.*

197*b*. Return to an order of the House of Commons, dated 23rd March, 1908, for a copy of all opinions of the Minister of Justice, or Deputy Minister of Justice, or any official of the Department of Justice, to the Minister of the Interior or any official of the Department of the Interior, with respect to the Metlakatla and Songhees Indian reserves, or either of the said reserves, since the 1st day of January, 1906. Presented 22nd April, 1908.—*Mr. Borden (Carleton)*.. .. ..*Not printed.*

197*c*. Return to an order of the House of Commons, dated 6th April, 1908, for a copy of all petitions, memorials, documents, correspondence and papers touching any matters, transactions or negotiations between the Department of Indian Affairs and the council of the Six Nations reserve, or the chief or chiefs of the said council or the Indian Rights Association or Warriors' Association, from the 1st day of January, 1906, to the present time. Presented 18th May, 1908.—*Mr. Lake*.. .. ..*Not printed.*

198. Return to an order of the House of Commons, dated 11th March, 1908, for a copy of contract and all correspondence in connection with purchase of cement from E. A. Wallberg, by the Department of Marine and Fisheries, to heighten Heath Point. Presented 13th April, 1908.—*Mr. Staples*.. .. ..*Not printed.*

199. Return to an order of the House of Commons, dated 19th February, 1908, showing: 1. What amount the firm of H. N. Bate & Co has received from each department of the Government since the year 1896 for supplies, giving the amount paid each year separately. 2. What amount the firm of W. C. Edwards & Co. has received from each department of the Government since the year 1896 for supplies, giving the amount paid each year separately. Presented 13th April, 1908.—*Mr. Taylor*.. .. ..*Not printed.*

200. Return to an order of the House of Commons, dated 11th March, 1908, for a copy of all petitions, letters and applications, by or on behalf of "La Société Canadienne d'immigration et de placement," for assistance from the Government, and the answer by the Government or its officials to the same. Presented 13th April, 1908.—*Mr. Monk.* *Not printed*

201. Return to an order of the House of Commons, dated 30th March, 1908, for a copy, as it appeared printed in the *Yukon World and Official Gazette* for nine months of the financial year 1906-7, of a synopsis of mining regulations referred to in the Auditor General's Report, 1906-7, at page L—37, and also setting forth the number of times the said advertisement appeared in the newspapers referred to in the time stated. Presented 13th April, 1908.—*Mr. Lennox*.. .. ..*Not printed*

202. Return to an order of the House of Commons, dated 26th February, 1908, for a copy of all correspondence, leases or other papers in connection with the leasing or proposed leasing of Kananaski Falls, on the Bow river. A copy of all correspondence and other

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papers in connection with the selling or otherwise disposing of 1,000 acres or any lands to the Calgary Power and Transmission Company (Limited). A statement showing an estimate of about the number of acres and territory owned by the Stony Indian Reserve, held in trust for the Indians, the said statement showing the quantity on each side of Bow river. Presented 13th April, 1908.—*Mr. Reid (Grenville)*.. .. ..*Not printed.*

203. Return to an address of the House of Commons, dated 29th January, 1908, for a copy of all correspondence, telegrams, memoranda and reports, between the Government and its officers and solicitors and the provincial or territorial governments, in regard to the cases taken to test the liability for taxation of the Canadian Pacific Railway Company in the cases Rural Municipality of North Cypress vs. Canadian Pacific Railway; Rural Municipality of Argyle vs. Canadian Pacific Railway; Springdale School District vs. Canadian Pacific Railway; together with copies of all judgments of the courts before whom the cases were tried, and of the refusal of the Judicial Committee of the Privy Council of the application for leave to appeal to that court. Presented 21st April, 1908.—*Mr. Lake*.. .. ..*Not printed.*

204. Copy of a Report of the Privy Council approved by His Excellency the Administrator on the 21st April, 1908, on a memorandum dated 20th April, 1908, from the Minister of Public Works, recommending that the order in council of the 30th March, 1908, providing for the continuation of certain contracts therein mentioned for dredging at various places in the provinces of Ontario and Nova Scotia be cancelled. Presented 23rd April, 1908, by Hon. W. Pugsley.. .. ..*Not printed.*

205. Return to an order of the House of Commons, dated 27th April, 1908, showing claims for damages to property, or personal injury or loss or damage on the Intercolonial Railway, which have been settled since 1st January, 1908; nature of the claims so settled; amount of damage claimed in each case; the settlements arrived at, and the names of the persons so settled with. Presented 27th April, 1908.—*Hon. G. P. Graham.* *Not printed.*

205*a*. Return to an order of the House of Commons, dated 6th April, 1908, for a copy of the Report of the Deputy Minister of Railways and Canals, and the Deputy Minister of Marine and Fisheries in reference to their meeting with delegates of the Boards of Trade of Prince Edward Island at Charlottetown in June last, to take into consideration the removal of the heavy freight and passenger rates on the Prince Edward Island Railway and the Intercolonial Railway, and on freight and passenger rates to and from Prince Edward Island; also all correspondence, telegrams, &c., in possession of the Government or any member or official relating thereto, and other questions discussed at said meeting. Presented 27th April, 1908.—*Mr. Martin (Queen's).Not printed.*

205*b*. Return to an order of the House of Commons, dated 30th March, 1908, for a copy of all letters, telegrams and other documents relating to an accident which happened at Mulgrave, Nova Scotia, on the 3rd of December last, whreby Captain James Forrestall lost his life; and also the evidence taken at the investigation subsequently held by officers of the department and the report made thereon. Presented 7th May, 1908.—*Mr. Sinclair*.. .. ..*Not printed.*

205*c*. Return to an order of the House of Commons, dated 6th April, 1908, showing the number of trains, both freight and passenger, on the Intercolonial Railway breaking down or detained from defects in engines during the months of October, November and December, 1907, and the causes of such defects. Presented 18th May, 1908.—*Mr. Reid (Grenville)*.... .. ..*Not printed.*

205*d*. Return to an order of the House of Commons, dated 6th April, 1908, showing the number of locomotives on the Intercolonial Railway out of service on the 31st December, 1907, and the date of purchase of each engine out of service, from whom purchased, type of engine, passenger or freight, haulage capacity, when in efficient state of repair, when put out of service, and when last used. Presented 18th May, 1908.—*Mr. Reid (Grenville)*.. .. ..*Not printed.*

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205*e*. Return to an order of the House of Commons, dated 6th April, 1908, showing the number of tons of new steel rails lying along the line of the Intercolonial Railway unused, date when purchased, if required, and when to be used. Presented 18th May, 1908.—*Mr. Reid (Grenville)*.. .. ..*Not printed.*

205*f*. Return to an order of the House of Commons, dated 6th April, 1908, showing the number of locomotives in service on the Intercolonial Railway on the several Sundays in the months of October, November and December, 1907, hauling freight trains. Presented 18th May, 1908.—*Mr. Reid (Grenville)*.. .. ..*Not printed.*

205*g*. Return to an order of the Senate, dated the 12th May, 1908, for a copy of all the correspondence exchanged in 1906 and 1907, between Mr. L. C. A. Casgrain, of Nicolet, and Messrs. J. Butler, Deputy Minister of Railway and Canals, and T. C. Barpee, engineer, or any other persons in the Department of Railways and Canals, on the subject of the fences along the line of the Intercolonial Railway across the county of Nicolet and the neighbouring counties. Presented 21st May, 1908.—*Hon. Mr. Landry*.. .. ..*Not printed.*

205*h*. Return to an order of the House of Commons, dated 10th June, 1908, for copies of all accounts, vouchers, correspondence and other papers relating to a payment of $8,399.68 to K. Falconer in connection with New Accounting System on Government Railways, as set out at Page W—192, Report Auditor General, 1906. Presented 10th June, 1908.—*Hon. G. P. Graham*.. .. ..*Not printed.*

205*i*. Return to an order of the House of Commons, dated 6th April, 1908, for a copy of all correspondence, telegrams, reports and recommendations in possession of the Government, or any member or official thereof, with respect to improved railway service on the Belfast and Murray Harbour Branch Railway. Presented 10th June, 1908.—*Mr. Martin (Queen's)*.. .. ..*Not printed.*

206. Return to an order of the House of Commons, dated 18th March, 1908, for a copy of all papers necessary to bring the information contained in Sessional Paper No. 90, 1907, up to date. (Robins Irrigation Company.) Presented 28th April, 1908.—*Mr. Ames.*
Not printed.

207. Certified copies of Reports of the Committee of the Privy Council, dated 30th March, 1908, and 16th April, 1908, approved by His Excellency the Administrator, and of the 28th April, 1908, approved by His Excellency the Governor General, on certain estimates of expenses in connection with the celebration of the founding of Quebec by Samuel de Champlain, submitted by the National Battlefields Commission for the sanction and approval of the Governor General in Council. Presented 30th April, 1908, by Sir Wilfrid Laurier.. .. ..*Printed for sessional papers.*

208. Return to an order of the House of Commons, dated 6th April, 1908, for a copy of all correspondence, reports, telegrams, resolutions, petitions, &c., in possession of the Government or any member or official thereof, respecting the demand of the Charlottetown Board of Trade or any person in Prince Edward Island, for federal legislation to give sailing vessels and steamers equal rights in their proper loading turns at the coal ports in Nova Scotia and Cape Breton. Presented 5th May, 1908.—*Mr. Martin (Queen's).*
Not printed.

209. Return to an address of the Senate, dated 10th April, 1908, showing: 1. The number of automatic low pressure acetylene gas buoys which have been purchased by the Government during the years 1904-5-6-7 from the International Marine Signal Company, of Ottawa, giving each year separate, and the prices paid for the same. 2. Whether tenders were called for their supply; if so how many tenders were received, from whom, and the prices at which they were offered. 3. How many other gas buoys, beacons, whistling buoys and light appliances were purchased from the same company during the same period of time, the prices paid for the same; whether any tenders were called for; if so, the names of the tenderers and the prices asked. 4. The quantity of the carbide purchased by the Government during the years 1903-4-5-6-7, the price paid, from

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whom purchased and whether by tender or otherwise. Presented 6th May, 1908.—*Hon. Sir Mackenzie Bowell*.. .. ..*Not printed.*

210. Return to an address of the Senate, dated 30th January, 1908, showing: 1. Has Mr. Michel Siméon Delisle, of the parish of Portneuf, in the county of Portneuf, merchant, and, since 1900, member of the House of Commons, at any time after the general elections of 1896, received any sum of money whatsoever coming from the federal treasury. 2. If so, when, how much, and for what object at each time. Presented 6th May, 1908.—*Hon. Mr. Landry*.. .. ..*Not printed.*

211. Return to an order of the House of Commons, dated 11th May, 1908, for a copy of the report made by Mr. Victor Gaudet as a result of the investigation held by him into charges preferred against E. Roy, foreman of works, under the Department of Marine and Fisheries; and of the evidence in connection therewith. Presented 11th May, 1908.—*Hon. L. P. Brodeur*.. .. ..*Not printed.*

212. Return to an order of the House of Commons, dated 9th March, 1908, for a copy of all correspondence, telegrams, reports, and all other information, not already brought down, in possession of the Government or any member or official thereof, in reference to winter communication, and the construction of a tunnel between Prince Edward Island and the mainland of Canada. Presented 2nd July, 1908.—*Mr. Martin (Queen's). Not printed.*

213. Return to an order of the House of Commons, dated 3rd February, 1908, for a copy of all tenders, contracts, correspondence, plans, specifications, certificates, schedules, and all other papers and documents, including settlement, agreements, claims or adjustments thereof, relating to the contract of Messieurs Murray & Cleveland to do the work at the eastern gap at Toronto Harbour, which work was completed in or about the year 1896. Presented 14th May, 1908.—*Mr. Macdonell*.. .. ..*Not printed.*

214. Return to an order of the House of Commons, dated 6th April, 1908, for a copy of all letters, telegrams, memoranda and correspondence of every kind between the Minister of Marine and Fisheries, or any officer of his department, and any person or persons, respecting the purchase of supplies for the Department of Marine and Fisheries at Quebec, St. John, New Brunswick and Halifax, during the years 1892, 1893, 1894, 1895 and 1896. Presented 14th May, 1908.—*Mr. Johnston*.. .. ..*Not printed.*

215. Copy of a treaty between Great Britain and the United States concerning the fisheries in waters contiguous to the Dominion of Canada and the United States, signed at Washington on April 11, 1908. Presented 19th May, 1908, by Sir Wilfrid Laurier. *Printed for both distribution and sessional papers*

215a. Correspondence, orders in council and despatches in connection with the negotiation of a treaty between Great Britain and the United States concerning the fisheries in waters contiguous to the Dominion of Canada and the United States. Presented 4th June, 1908, by Sir Wilfrid Laurier...*Printed for both distribution and sessional papers.*

216. Return to an order of the House of Commons, dated 29th January, 1908, showing the total expenditure by the Department of Public Works in Prince Edward Island over the following periods: 1873 to 1878; 1878 to 1896; 1896 to 1907; and the total expenditure by the Public Works Department in Prince county over periods 1873 to 1878; 1878 to 1882; 1882 to 1887; 1887 to 1891; 1891 to 1896; 1896 to 1900; 1900 to 1907, respectively. And the expenditures by the Public Works Department in the counties of Queen's and King's for the years and the periods of years above-mentioned. Also the total expenditures in said province by the Post Office Department, the Department of Railways and Canals, and the Department of Militia and Defence. And further, the total expenditures by the Department of Marine and Fisheries, including the development, propagation and preservation of the fisheries, and in the maintenance of winter communication across the Northumberland Straits, for the years and periods of years above referred to. Presented 26th May, 1908.—*Mr. Lefurgey*.. .. ..*Not printed.*

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217. Return to an order of the House of Commons, dated 11th December, 1907, for a copy of all correspondence, contracts and appointments of overseers in respect to Port Burwell Harbour, in the county of Elgin, Ontario, since 1st January, 1907; also a return showing pay-sheets, amount of new material used, from whom purchased, of all day or contract work on the said harbour, giving names of overseers and by whom appointed for the same. Presented 26th May, 1908.—*Mr. Marshall*.. .. ..*Not printed.*

218. Return to an order of the House of Commons, dated 6th May, 1908, showing the names of all persons who furnished supplies to the steamer *Petrel* between the 31st March, 1907, and 30th April, 1908, the amount paid to each such person, and the date of each payment. Presented 4th June, 1908.—*Mr. Chisholm (Huron)*.. .. ..*Not printed.*

219. Return to an order of the House of Commons, dated 19th February, 1908, (*a*) showing the revenue contributed by the province of British Columbia for each and every year from 1872-3 to 1905, inclusive, under the following heads: 1. Customs. 2. Chinese Immigration. 3. Inland Revenue, Excise, Weights and Measures, Gas Inspection, Electric Light Inspection, Methylated Spirits, Sundries. 4. Post Offices. 5. Public Works, Telegraphs, Esquimalt Graving Dock, Casual. 6. Experimental Farm. 7. Penitentiary. 8. Marine and Fisheries, Sick Mariners' Fund, Steamboat Inspection, examination of Masters and Mates, Casual and Harbours, Fisheries. 9. Superannuation. 10. Dominion Lands and Timber. 11. Vancouver Assay Office. 12. Miscellaneous. 13. Public Debt. 14. Any other source. And (*b*)showing expenditure by the Dominion of Canada on account of the province of British Columbia, for each and every year from 1872-3 to 1905, inclusive, under the following heads : 1. Public Debt. 2. Charges of Management. 3. Lieutenant Governor. 4. Administration of Justice, Judges, &c. 5. Penitentiary. 6. Experimental Farm. 7. Quarantine. 8. Immigration. 9. Pensions, &c. 10. Militia. 11. Public Works, Buildings, Harbours and Rivers, Dredging. 12. Telegraphs, Agency. 13. Mail subsidy. 14. Marine and Fisheries, Dominion Steamers, Lighthouses, Meteorological Marine Hospital, Steamboat Inspection, Miscellaneous, Fisheries, Fisheries Inspection, Hatcheries. 15. Indians. 16. Subsidies. 17. Dominion Lands. 18. Customs. 19. Inland Revenue, Excise, Weights and Measures, Gas and Electric Light. 20. Esquimalt Dry Dock. 21. Post Office. 22. Chinese Immigration. 23. Defences, Esquimalt. 24. Chinese Immigration Inquiry. 25. Bounty on Minerals. 26. Miscellaneous. 27. Vancouver Assay Office. 28. Railway Subsidies. 29. Any other source. Presented 10th July, 1908.—*Mr. Ross (Yale-Cariboo)*..*Printed for distribution.*

220. Return to an order of the House of Commons, dated 3rd February, 1908, showing during the last ten years how much money has been expended by years by this Government for printing and lithographing done outside of Canada; and for what reason such work was done out of Canada. Presented 4th June, 1908.—*Mr. Macdonell*..*Not printed.*

221. Return to an order of the House of Commons, dated 5th June, 1908, for a copy of the evidence taken in the *Montcalm-Milwaukee* collision case, and a copy of the decision of the wreck commissioner and of the assessors on the collision. Presented 5th June, 1908.—*Hon. L. P. Brodeur*.. .. ..*Not printed.*

222. Return to an order of the House of Commons, dated 13th January, 1908, for the production of the following: 1. A copy of the appointment of Doctor Edmond Savard, of Chicoutimi, as paymaster for the county of Chicoutimi. 2. A copy of the instructions given to him as such regarding the validity of the receipts. 3. A copy of all correspondence that took place between Doctor Edmond Savard and the Department of Public Works of Canada in regard to the St. Fulgence pier, in the county of Chicoutimi. 4. A copy of all correspondence that took place between the Auditor General and the Department of Public Works regarding the said Doctor Edmond Savard, paymaster, concerning the St. Fulgence pier. 5. A copy of all the pay lists in connection with the said St. Fulgence pier during the period of time that the said Doctor Savard

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was paymaster. 6. A copy of all the pay lists for works done to the wharfs of Chicoutimi and St. Alexis during the time that the said Doctor Savard was paymaster. Presented 9th June, 1908.—*Mr. Bergeron* . . . . . *Not printed.*

223. Return to an order of the House of Commons, dated 11th March, 1908, showing: 1. All lands or interests in lands granted by the Government to the Temperance Colonization Society, together with the dates of such grants, description of lands granted, consideration paid, or terms upon which such lands were granted, and all other particulars of sale. 2. Showing the terms of settlement or otherwise upon which such lands were granted, or held by the Society, and the conditions or regulations in force from time to time regarding such grants, and the holding thereof respectively. 3. Showing wherein or in what respect and with respect to what lands, the said Society lived up to, and complied with such conditions and regulations, and wherein the Society failed to comply therewith. 4. Showing what lands, if any, have been reclaimed by the oGvernment from the Society for such non-compliance with such terms and conditions, or for any other cause or reason. 5. Showing what lands the said Society still hold, as far as known. 6. Showing whether the said Society is still in existence, and if so, who compose the same as far as known. 7. Also for a copy of all correspondence, reports, memoranda, orders in council, or other documents in possession of the Government, relating to the said Society or the lands granted thereto. Presented 10th June, 1908.—*Mr. Macdonell*. . . . . *Not printed.*

224. Return to an order of the House of Commons, dated 13th January, 1908, showing the number of men and the quantity of supplies, material and mails transported on Government account over the Qu'Appelle, Long Lake and Saskatchewan Railway, the Calgary and Edmonton Railway, the Lake Manitoba Railway and Canal Company, and the Winnipeg Great Northern Railway, with the cost of same at current transport rates, since the beginning of the contract arrangements made with each, up to date. Presented 17th June, 1908.—*Mr. Foster*. . . . . *Not printed.*

225. Supplementary Return to an order of the House of Commons, dated 17th December, 1906, for: 1. A copy of all leases and agreements between the Government, represented by the Department of Marine and Fisheries, and (*a*) the Athabasca Fish Company (J. K. McKenzie, Selkirk, Manitoba), or their assigns, Messrs. Butterfield & Dee; (*b*) A. McNee, Windsor, Ontario; (*c*) the British American Fish Corporation, of Montreal and Selkirk (F. H. Markey). 2. A copy of all reports, correspondence or documents, relating to or touching upon the application for securing of, transfer of, or enjoyment of any privileges under said leases. 3. A statement of all rentals, bonuses, or payments to the Government in respect of such leases to date. 4. All information in the possession of or procurable by the Government with reference to (*a*) the number of tugs, boats and men employed; (*b*) the quantity and value of nets used; (*c*) the number and value of fish taken; (*d*) the quantity of fish exported under each of said leases during the last period of twelve months, for which such figures are available. Presented 26th June, 1908.—*Mr. Ames*. . . . . *Not printed.*

226. Return to an order of the House of Commons, dated 23rd March, 1908, for a copy of all contracts, papers and other documents between the Government or the Department of Militia and Defence, or any member thereof, or any one acting for or on its behalf, and the Sutherland Rifle Sight Company, or any one acting for or on its behalf, relating to the purchase of rifle sights or any other materials. Presented 26th June, 1908—*Mr. Worthington*. . . . . *Not printed.*

227. Return to an order of the Senate, dated 18th June, 1908, showing the tonnage entered at St. John, N.B., and Halifax, N.S., for the years 1905, 1906 and 1907. Also the value of imports for the same years at St. John, N.B., and Halifax, N.S., and also the value of exports for same year from St. John, N.B., and Halifax, N.S. Presented 7th July, 1908.—*Hon. Mr. Domville*. . . . . *Not printed.*

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228. Return to an order of the House of Commons, dated 13th July, 1908, for a copy of a memorandum by Major General P. H. N. Lake, C.B., C.M.G., Inspector General, upon that portion of the Report of the Civil Service Commissioners, 1908, which deals with the Military Administration of the Militia. Presented 13th July, 1908.—*Sir Frederick Borden*.. .. ..*Printed for distribution.*

229. Return to an order of the House of Commons, dated 13th January, 1908, showing the population of each town, village or other place in Canada, in which any public building has been erected at the expense of Canada since 1st January, 1897, or for a public building in which any public money has been voted, expended or appropriated since that date, together with a statement of the amount voted, expended or appropriated in each case, the total cost of each such building, the estimated total cost of any such building not yet completed, the purpose of each such building in each instance, the cost of the annual maintenance and upkeep thereof; and so that the said statement shall show the information aforesaid by division of the said towns, villages or other places in the following classes: Those having a population not exceeding 2,000, 3,000, 4,000, 5,000, 6,000, 7,000, 8,000, 9,000, 10,000; also giving the names of all other towns and villages in Canada of each of the said classes in which no such public buildings have been erected up to the present time. Presented 13th July, 1908.—*Mr. Borden (Carleton).* *Not printed.*

230. Return to an address of the Senate, dated 2nd July, 1908, showing: 1. The names of all senators and members of the House of Commons who have been appointed to office of emolument during the years 1896-7-8-9, 1900-1-2-3-4-5-6-7 and 8. 2. The name of the office to which each senator and member was appointed. 3. The salary attached to each office. Presented 14th July, 1908.—*Hon. Mr. Landry*.. .. ..*Not printed.*

231. Return to an order of the House of Commons, dated 10th February, 1908, for a copy of all petitions, letters, correspondence, reports, documents, papers, and other information in relation to the granting of a license in the year 1905 to E. H. McLennan and G. A. Redmond, both of River John, Nova Scotia, for the erection of a factory and to fish lobsters, with the date of such license. Presented 16th July, 1908.—*Mr. McLean (Queen's)*.. .. ..*Not printed.*

231a. Return to an address of the House of Commons, dated 23rd March, 1908, for a copy of all correspondence, telegrams, petitions, orders in council, applications for licenses, in possession of the Government or any member or official thereof, respecting the granting of lobster fishing and packing licenses in Prince Edward Island for the years 1904, 1905, 1906 and 1907-8, and the report of the inspectors thereon. Presented 18th July, 1908.—*Mr. Martin (Queen's)*.. .. ..*Not printed.*

232. Return to an order of the House of Commons, dated 16th December, 1907, showing: The amounts paid by the various departments of the Government since July, 1896, for sites for the following purposes, respectively: (*a*) court houses; (*b*) Royal Northwest Mounted Police purposes; (*c*) jails or penitentiaries; (*d*) armouries; (*e*) post offices; (f) Daminion lands office; (*g*) land titles offices; (*h*) customs offices; (*i*) inland revenue; (*j*) weights and measures; (*k*) other Dominion Government purposes, in the following villages, towns or cities, respectively: Winnipeg, Brandon, Regina, Moosejaw, Medicine Hat, Lethbridge, Calgary, Macleod, Cardston, Pincher Creek, Red Deer, Lacombe, Wetaskiwin, Edmonton, Battleford, Prince Albert, Saskatoon, Yorkton and Dauphin. Presented 17th July, 1908.—*Mr. McCarthy (Calgary)*.. .. ..*Not printed*

233. Return to an address of the House of Commons, dated 30th March, 1908, for a copy of specifications, tenders, contracts, orders in council, extension or renewal of contracts in connection with Quebec Harbour improvements in 1903, and subsequently; and of all letters, correspondence and memoranda in connection therewith; and also a statement of the sums of money paid on account of the work in and subsequent to 1903. Presented 17th July, 1908.—*Mr. Lennox*.. .. ..*Not printed.*

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234. Copy of a telegram from the Canadian Manufacturers' Association relative to the woollen industries, and Sir Wilfrid Laurier's reply thereto. Presented 18th July, 1908, by Sir Wilfrid Laurier. . . . . *Not printed.*

234*a*. Correspondence, &c., from the Canadian Manufacturers' Association relating to the woollen industries in Canada. Presented 20th July, 1908, by Sir Wilfrid Laurier. *Not printed.*

235. Return to an order of the Senate, dated 6th May, 1908, calling for copies of all correspondence with the Department of Inland Revenue and officers, referring to analysis of fertilizers and for the decision of the department on questions raised during the years 1906, 1907 and 1908, to date. Presented 18th July, 1908.—*Hon. Mr. Domville.* *Not printed.*

REPORT, RETURNS AND STATISTICS

OF THE

INLAND REVENUES

OF THE

DOMINION OF CANADA

FOR THE NINE MONTHS ENDED MARCH 31

1907

PART I. EXCISE, &c.

PRINTED BY ORDER OF PARLIAMENT

OTTAWA
PRINTED BY S. E. DAWSON, PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1907

[No. 12—1908.]

To His Excellency the Right Honourable Sir Albert Henry George, Earl Grey, Viscount Howick, Baron Grey of Howick, in the County of Northumberland, in the Peerage of the United Kingdom and a Baronet; Knight Grand Cross of the Most Distinguished Order of Saint Michael and Saint George, &c., &c., Governor General of Canada.

MAY IT PLEASE YOUR EXCELLENCY:

I have the honour to transmit to Your Excellency the RETURNS AND STATISTICS of Inland Revenues of the Dominion of Canada, for the Nine months ended March 31, 1907, as prepared and laid before me by the Deputy Minister of Inland Revenue.

All of which is respectfully submitted.

WM. TEMPLEMAN,
Minister of Inland Revenue.

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REPORT

OF THE

DEPUTY MINISTER OF INLAND REVENUE

To the Hon. Wm. Templeman,
Minister of Inland Revenue.

Sir,—Herewith I have the honour to submit statements of the Inland Revenues collected by this department during the nine months ended March 31, 1907, with the usual information as to the cost of collection and statistics respecting the sources whence these revenues were derived.

The following summary comparison shows the accrued revenue for the years ended June 30, 1903, 1904, 1905, 1906, and for the nine months ended March 31, 1907, respectively :—

	1903.	1904.	1905.	1906.	1907. Nine months.
	$	$	$	$	$
Excise	12,190,123	13,126,593	12,719,191	14,201,534	11,930,153
Public Works	4,901	4,687	4,863	4,623	2,732
Weights and Measures, Gas and Law Stamps	109,535	110,416	114,309	125,753	94,123
Electric Light	23,895	23,457	27,810	35,100	25,951
Other Revenues	610	569	1,614	3,102	1,306
Methylated Spirits	72,269	68,326	68,121	65,530	42,665
Totals	12,401,333	13,334,048	12,935,908	14,435,642	12,096,930

DETAILS of Excise Revenue accrued during the undermentioned years — :

	1	2	3	4	5
	1903.	1904.	1905.	1906.	1907. Nine months.
	$	$	$	$	$
Spirits	6,162,827	6,672,149	5,950,632	6,795,900	5,807,742
Malt Liquor	9,485	9,039	9,124	10,003	6,913
Malt	1,020,623	1,137,556	1,140,639	1,292,443	1,042,881
Tabacco	3,904,617	4,127,679	4,412,374	4,842,348	4,065,129
Cigars	998,495	1,070,823	1,103,743	1,146,936	912,758
Acetic Acid	6,128	2,701	7,694	1,656	1,944
Manufactures in bond	45,024	45,343	51,141	56,115	41,822
Seizures	2,830	4,413	2,352	3,501	1,597
Other receipts	40,094	56,889	41,492	52,632	49,367
Methylated spirits	72,269	68,326	68,121	65,530	42,665
Totals	12,262,392	13,194,918	12,787,312	14,267,064	11,972,818

The quantity of spirits produced during the nine months was 5,061,389 proof gallons, as compared with 6,743,244 proof gallons produced in the previous fiscal year. The raw material used in its production being as follows —

	Lbs.
Malt	6,387,346
Indian corn	52,756,515
Rye	10,069,840
Wheat	3,249,605
Oats	388,570
Barley	13,104
Molasses	17,829,822

The transactions of the several distilleries will be found stated in detail in Appendix A (Statement No. 3), pages 64 and 65.

	Proof galls.
There was on July 1, 1906, in process of manufacture	219,777
Manufactured during the nine months	5,061,389
Returned to distilleries for re-distillation—Duty paid 138	
" " " In bond. 1,007,136	
	1,007,274
Received into distilleries from other sources—Duty paid	10,233
" " " In bond	76
Total	6,298,749

This was disposed of as follows :—

	Proof Gallons.
Placed in warehouse under crown lock	5,920,522
Fusel-oil written off	32,992
Deficiency arising from rectification	4,475
Remaining in process of manufacture, March 31, 1907, by actual stock-taking	340,760
Written off	Nil.
Total	6,298,749

SPIRITS :—

The following statement shows the warehousing transactions in spirits during the nine months ended March 31, 1907, and the four preceding fiscal years ended June 30:—

Fiscal Years.	1 In Warehouse at beginning of year.	2 Warehoused during the year. Ex-distillery.	3 Otherwise Warehoused.	4 Taken for consumption.	5 Exported.	6 Used in Bonded Factories.	7 Otherwise accounted for.	8 For Re-distillation.	9 In Warehouse at end of year.
	Pf. Galls.	Pf. Galls.	Pf. Galls.	Pf. Galls.	Pf. Galls.	Pf. Galls.	Pf. Galls.	Pf. Galls.	Pf. Galls.
1902-1903...	10,563,408	4,953,575	228,601	3,207,748	157,666	418,631	306,220	870,231	10,785,088
1903-1904....	10,785,088	6,323,439	225,329	3,481,287	180,291	405,663	193,851	748,823	12,323,941
1904-1905 ...	12,323,941	6,774,392	160,925	3,112,843	211,525	363,471	209,046	848,209	14,514,164
1905-1906....	14,514,164	7,878,966	239,480	3,545,785	277,905	450,499	205,433	1,118,568	17,034,420
Totals. ...	48,186,601	25,930,372	854,335	13,347,663	827,387	1,638,264	914,550	3,585,831	54,657,613
Annual average of four years ended June 30, 1906.....	12,046,650	6,482,593	213,584	3,336,916	206,847	409,566	228,637	896,458	13,664,403
1906-1907 . . (nine months)	17,034,420	5,920,522	157,351	3,033,439	303,594	372,047	182,526	1,007,136	18,213,551

It will be of interest to note the gradual development of a foreign demand for Canadian distillery products.

The quantities exported being as follows :—

	Proof Gallons.
1902–1903	157,666
1903–1904	180,291
1904–1905	211,525
1905–1906	277,905
1906–1907 (nine months)	303,594

The following statement exhibits the entire quantities upon which duties were collected during the several years recited therein. The total column will be found to accord with the figures shown in Financial Statement No. 13, page 23 :—

Fiscal Years.	Canadian Spirits.		Imported Spirits used in Bonded Factories.	Total quantities upon which duty was collected.	Memorandum of Revenue accrued, including License Fees.
	Paid duty Ex-distillery.	Paid duty Ex-warehouse.	Paid difference between Customs and Excise Duty.		
	Pf. Gallons	Pf. Gallons.	Pf. Gallons.	Pf. Gallons.	$
1902-1903	1,019	2,979,268	228,480	3,208,767	6,162,827
1903-1904	6,458	3,481,287	225,326	3,713,071	6,672,149
1904-1905	200	3,112,843	160,842	3,273,885	5,950,632
1905-1906	3,765	3,545,785	239,432	3,788,982	6,795,900
Totals	11,442	13,119,183	854,080	13,984,705	25,581,508
Annual average of four years ended June 30, 1906	2,860	3,279,796	213,520	3,496,176	6,395,377
1906-1907 (nine months)	4,475	3,033,439	157,325	3,195,239	5,807,742

MALT :

The following statement shows the transactions in Malt during the nine months ended March 31, 1907 and the four preceding fiscal years ended June 30 :—

Fiscal Years.	1	2	3	4	5	6	7	8	9
	In Warehouse at beginning of year.	Manufactured during the year.	Imported.	Increase by absorption.	Taken for consumption.	Exported.	Otherwise accounted for	In Warehouse at end of year.	Memorandum of Revenue accrued, including License Fees.
	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	$
1902–1903	30,256,929	66,492,160	3,596,116	739,592	67,608,157	287,040	1,735,390	31,454,210	1,020,623
1903–1904	31,454,210	68,503,928	4,158,218	623,592	75,430,347	376,936	2,253,306	26,679,359	1,137,556
1904–1905	26,679,359	75,357,218	3,878,089	811,286	75,517,352	498,960	2,824,310	27,885,330	1,140,639
1905–1906	27,885,330	90,089,573	3,470,197	649,819	85,699,102	528,400	3,248,754	32,618,663	1,292,443
Total	116,275,828	300,442,879	15,102,620	2,824,289	304,254,958	1,691,336	10,061,760	118,637,562	4,591,261
Annual average of four years ended June 30, 1906	29,068,957	75,110,720	3,775,655	706,072	76,063,739	422,834	2,515,446	29,659,391	1,147,815
1906–1907 (nine months)	32,618,663	79,682,511	1,056,315	674,022	69,176,871	303,550	2,422,575	42,128,515	1,042,881

TOBACCO:

The following statement shows the transactions during the Fiscal Years ended June 30, 1903, 1904, 1905, 1906 and the nine months ended March 31, 1907, respectively, in Tobacco, Snuff and Cigarettes.

Fiscal Years.	1	2	3	4	5	6	7	8	9	10
	In Warehouse at beginning of year.	Manufactured during the year.	Taken for consumption.	Exported.	Otherwise accounted for.	In Warehouse at end of year.	Raw Leaf taken for consumption.	Canadian Twist taken for consumption.	Total Tobacco taken for consumption.	Duty collected thereon, including License Fees.
	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	$
1902–1903	1,176,869	13,371,321	12,983,995	141,209	79,923	1,343,063	11,615,963	53,256	24,653,214	3,904,617
1903–1904	1,343,063	13,488,306	13,160,660	163,829	69,329	1,437,551	12,139,700	47,771	25,348,131	4,127,679
1904–1905	1,437,551	14,388,104	14,164,325	181,220	68,536	1,411,574	12,387,376	32,867	26,584,568	4,412,374
1905–1906	1,411,574	15,588,289	15,289,576	155,432	65,310	1,489,545	13,638,620	36,340	28,964,536	4,842,348
Totals	5,369,057	56,836,020	55,598,556	641,690	283,098	5,681,733	49,781,659	170,234	105,550,449	17,287,018
Annual average of four years ended June 30, 1906	1,342,264	14,209,005	13,899,639	160,422	70,775	1,420,433	12,445,415	42,558	26,387,612	4,321,754
1906–1907 (nine months)	1,489,545	12,381,013	12,101,678	114,322	21,451	1,633,107	11,386,331	15,992	23,504,001	4,065,129

CIGARS:

The following statement shows the transactions in Cigars during the nine months ended March 31, 1907, and the four preceding years ended June 30.

Fiscal Years.	1	2	3	4	5	6	7	8
	In Warehouse at beginning of Year.	Manufactured during the Year.	Assessment to bring production up to Standard.	Taken for Consumption.	Exported.	Otherwise accounted for.	In Warehouse at end of year.	Memorandum of Revenue accrued including License Fees.
	No.	No.	No.	No.	No.	No.	No.	$
1902–1903	21,822,815	171,996,232	84,875	168,290,422	190,920	662,450	24,760,130	998,495
1903–1904	24,760,130	183,048,907	15,745	180,485,202	278,450	123,900	26,937,230	1,070,823
1904–1905	26,937,230	188,044,370	37,887	186,110,777	162,250	26,775	28,719,685	1,103,743
1905–1906	28,719,685	190,941,283	29,139	193,827,342	144,575	376,925	25,341,265	1,146,936
Totals	102,239,860	734,030,792	167,646	728,713,743	776,195	1,190,050	105,758,310	4,319,997
Annual average of four years ended June 30, 1906	25,559,965	183,507,698	41,911	182,178,436	194,049	297,512	26,439,577	1,079,999
1906–1907 (nine months)	25,341,265	154,462,182	399,078	154,253,260	40,500	86,315	25,822,450	912,758

The revenue derived from goods manufactured in bond during the past four years and for the nine months ended March 31, 1907, has been as follows :—

1902–1903	$ 45,024
1903–1904	45,343
1904–1905	51,141
1905–1906	56,115
1906–1907 (nine months)	41,822

Acetic Acid :

The revenue derived from acetic acid during the last four years and for the nine months ended March 31, 1907, has been as follows :—

1902–1903	$ 6,128
1903–1904	2,701
1904–1905	7,694
1905–1906	1,656
1906–1907 (nine months)	1,945

Inspection of Petroleum :—

The quantity of Canadian Petroleum and Naphtha inspected during the nine months was as follows :—

Petroleum	12,560,054
Naphtha	2,741,706
Total	15,301,760

Public Works :

The revenue accrued from this source was as follows :—

	1905-1906.	1906-1907.
Hydraulic and other rents	$ 3,647 00	$ 2,547 00
Minor public work	975 50	184 83

Weights and Measures, Gas and Electric Light :—

The usual special reports in relation to these services have been prepared, containing full statistical information.

The aggregate revenue accrued from these services was $112,738.78.

The cost of the three services being $100,259.99.

Prevention of Adulteration of Food and Agricultural Fertilizers :—

The usual supplementary report in relation to this service will be submitted, containing details of the work done and the report of the analysts.

Methylated Spirits :—

The quantity of methylated spirits manufactured during the nine months was 73,458.78 proof gallons, and the sales 70,642·38 proof gallons. A statement of details appears on page 56, 57 and 104 and 105.

The price of this denatured alcohol has since last fiscal year been reduced as follows :—

Grade No. 1 from $1.10 to 70c. per gallon.
Grade No. 2 from $1.50 to 80c.

Appendix A shows the consumption of, and revenue derived annually from spirits, tobacco and other goods subject to Excise, and of similar goods subject to duties of Customs, per head of the population of the Dominion.

Appendix B contains, as usual, the details concerning illicit stills seized during the year.

Appendix C shows the amount of Excise Revenue collected at each out-office and under various headings, separately.

I have the honour to be, Sir,

Your obedient servant,

W. J. GERALD,
Deputy Minister.

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

APPENDIX A

TABLE showing the Annual Consumption per head of the undermentioned articles paying Excise and Customs Duties, and the Revenue per head derived annually.

DOMINION OF CANADA.

YEARS	Quantity.					Duty.				
	Spirits.	Beer.	Wine.	Tobacco.	Petroleum.	Spirits.	Beer.	Wine.	Tobacco.	Petroleum.
	Galls.	Galls.	Galls.	Lbs.	Galls.	$	$	$	$	$
1869	1·124	2·190	·115	1·755	·575	·761	·092	·037	·193	·041
1870	1·434	2·163	·195	2·190	1 103	·962	·085	·049	·259	·061
1871	1·578	2·490	·259	2·052	1·591	1·059	·095	·056	·336	·077
1872	1·723	2·774	·257	2·481	1·302	1·160	·103	·070	·422	·076
1873	1·682	3·188	·238	1·999	1·387	1·135	·120	·066	·350	·084
1874	1·994	3·012	·288	2·566	1·618	1·263	·119	·086	·442	·103
1875	1·394	3·091	·149	1·995	1·589	1·127	·114	·069	·428	·098
1876	1·204	2·454	·177	2·316	1·360	1·182	·098	·075	·513	·105
1877	·975	2·322	·096	2·051	1·103	·949	·109	·057	·446	·084
1878	·960	2·169	·096	1·976	.....	·927	·147	·052	·439	...
1879	1 131	2 209	·104	1·954	.....	1·005	·125	·057	·449	.....
1880	·715	2 248	·077	1·936	.....	·772	·081	·055	·428	...
1881	·922	2 293	·099	2·035	.....	·990	·081	·073	·443	.....
1882	1·009	2·747	·120	2·150	.....	1·084	098	·092	·485	.....
1883	1·090	2·882	·135	2·280	.....	1·186	·103	·097	·473	.....
1884	·998	2·924	·117	2·476	.....	1·074	·104	·082	·365	.....
1885	1·126	2·639	·109	2·623	.....	1·198	·111	·074	·393	.....
1886	·711	2·839	·110	2·052	.....	1·007	·091	·074	·502	.....
1887	746	3·084	·095	2·062	.....	1·045	·100	·066	·514	.....
1888	·645	3·247	·094	2·093	.....	·944	·110	·066	·509	.....
1889	·776	3·263	·097	1·153	.....	1·107	·114	·068	·529	.....
1890	·883	3·360	·104	2·143	.....	1·257	·121	·072	·539	.....
1891	·745	3·790	·111	2·292	.....	1·094	·137	·080	·590	.....
1892	·701	3·516	·101	2·291	.....	1·156	·211	·075	·680	.....
1893	·740	3·485	·094	2·314	.....	1·235	218	·070	·691	.....
1894	·742	3·722	·089	2·264	.....	1 235	·205	·060	·683	.....
1895	·666	3·471	·090	2·163	.....	1·124	·161	·056	·645	.....
1896	·623	3·528	·070	2·120	.....	1·159	·164	·047	·639	.....
1897	·723	3·469	·084	2·243	.....	1·341	·213	·041	·671	.....
1898	·536	3·808	·082	2·358	.....	1·306	·126	·041	·615	.....
1899	·661	3·995	·086	2·174	.....	1·367	·174	·045	·841	.....
1900	·701	4·364	·085	2·300	.....	1·455	·185	·044	·853	.....
1901	·765	4·737	·100	2·404	.....	1·593	·198	·048	·875	.....
1902	·796	5·102	·090	2·404	.....	1·653	·214	·048	·915	.....
1903	·870	4·712	·096	2·548	.....	1·812	·205	·051	·992	.....
1904	·952	4·918	·096	2·765	.....	1·985	·225	·051	1·042	.....
1905	·869	4·972	·090	2·686	.....	1·842	·207	·040	1·005	.....
1906	·861	5·255	·091	2·777	.....	1·800	·228	·050	1 053	.....
*1907 (nine months)	·947	5·585	·092	2·953	.....	1·972	·249	·053	1·276	.....
Average	·967	3·388	·121	2·241	.....	1·242	·145	·061	·603	.....

* Calculation on basis of 12 months.

W. J. GERALD,
Deputy Minister.

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1906.

APPENDIX B

STATEMENT of Seizures of Illicit Manufactures for nine months ended March 31, 1907.

Divisions.	No.	Date.	Names.	Residence.	Schedule Value	Remarks.
					$ cts.	
London	71	Sept. 27	A. Curry	East Williams	5 00	Fine $100 imposed and paid.
"	72	" 26	D. McLaughlin	"	5 00	" $100 "
Montreal	1,143	Dec. 13	Auguste Lacombe, Jules. Decroisette & Paul Demay	Montreal	27 00	" $300 "
"	1,146	Feb. 12	I. Hanik	"	16 18	" $100 "
Quebec	575	Nov. 8	Celestin Beaurivage	St. Nicholas	20 00	" $100 "
"	576	" 8	G. Bergevin	"	2 50	" $ 50 "
"	577	Jan. 23	Jos. Falardeau	St. Dustan	35 00	" $ 50 "
Pictou, N.S.	114	Aug. 9	Alex. J. McInnis	Glendale	54 00	" $100 "

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

W. J. GERALD,
Deputy Minister.

APPENDIX C.

STATEMENT showing the Amount of Excise and other Revenues collected at each of the undermentioned Out-Offices, during the nine months ended March 31, 1907.

Divisions.	Out-Offices.	Licenses.	Spirits.	Malt Liquor.	Malt.	Tobacco.	Cigars.	Manufactures in Bond.	Other Receipts.	Electric Light Inspection Fees.	Totals.
		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Belleville	Deseronto		522 65			160 00					682 65
	Picton	20 00	1,071 55							25 00	1,116 55
	Trenton	20 00	5,057 92								5,077 92
Brantford	Embro									3 75	3 75
	Delhi										
	Ingersoll									18 75	18 75
	Norwich	37 50						849 97	450 00	7 50	1,344 97
	Paris									7 50	7 50
	Port Dover									3 75	3 75
	Port Rowan										
	Simcoe									3 75	3 75
	Tilsonburg									7 50	7 50
	Waterford										
	Woodstock	240 00	3,459 97		1,372 42	945 60	2,744 55		472 97		9,235 51
Guelph	Berlin	277 50	65,428 24	5,072 75		1,841 28	6,192 90			18 75	76,831 42
	Galt	131 25				346 80	990 00			18 75	1,486 80
	New Hamburg	37 50			2,580 00					7 50	2,625 00
	Preston	131 25			3,306 39	519 40	1,401 60			18 75	5,377 39
	Salem	37 50			2,886 18						2,923 68
	Waterloo	431 25	303,902 93		30,598 05	1,144 08	4,733 40		5,162 24	18 75	345,990 70
Hamilton	Dundas	200 00			36,241 95						36,441 95
Kingston	Napanee	15 00	5,647 61						27 00	15 00	5,704 61
London	Alvinston									3 75	3 75
	Aylmer	56 25				1,023 19	2,200 20			7 50	3,287 14
	Dutton									7 50	7 50
	Forest									3 75	3 75
	Glencoe									17 50	17 50
	Lucan									7 50	7 50
	Park Hill									7 50	7 50
	Petrolea	15 75	3,748 20							18 75	3,782 70
	Port Stanley									3 75	3 75
	Sarnia	124 50	22,776 91		1,161 00	612 39	1,756 05		65 04	18 75	26,514 64
	St. Thomas	150 00				2,232 14	8,133 90			18 75	10,534 79

	Strathroy	75 00			2,940 00				126 66	18 75	3,160 41
	Watford									3 75	3 75
	West Lorne									3 75	3 75
Owen Sound	Collingwood	30 00				6,439 75			1 00	18 75	6,489 50
	Kincardine								371 84	7 50	379 34
	Meaford	30 00				3,794 00				7 50	3,831 50
	Walkerton	75 00			3,278 86				192 13	26 25	3,572 24
Ottawa	Moose Factory										
	Ville Marie										
Perth	Arnprior	15 00	3,901 00							18 75	3,934 75
	Eganville	15 00	1,269 69			3,440 75				7 50	4,732 94
	Carleton Place		80 08							18 75	98 83
	North Bay	67 50	13,504 62		5,146 50	11,070 75				18 75	29,808 12
	Pembroke	71 25	5,991 92			7,046 54	572 10			18 75	13,700 56
	Renfrew	30 00	5,785 41							26 25	5,841 66
	Sturgeon Falls	22 50	21,940 47							18 75	21,981 72
	Sudbury	15 00	14,481 24							18 75	14,514 99
Peterborough	Cobourg	15 00	5,708 05							33 75	5,756 80
	Port Hope	15 00	2,545 39	6,080 54					19 00	18 75	8,678 68
Port Arthur	Wabigoon	15 00	3,385 97								3,400 97
Prescott	Brockville	146 25	3,814 52		4,149 83	610 60	1,554 00		67 00	18 75	10,360 95
	Cananoque	15 00	2,271 75							7 50	2,294 25
St. Catharines	Beamsville									3 75	3 75
	Dunville	71 25	942 48			226 30	675 75			7 50	1,923 28
	Fort Erie								51 00		51 00
	Grimsby									3 75	3 75
	Humberstone	56 25				75 10	289 50				420 85
	Merriton									7 50	7 50
	Niagara									7 50	7 50
	Niagara Falls	68 75				211 50	700 80			18 75	999 80
	Port Colborne	131 25			5,238 00	137 30	423 00				5,929 55
	Port Dalhousie									7 50	7 50
	Queenston										
	Thorold									7 50	7 50
	Welland	56 25				118 40	352 05			7 50	534 20
Stratford	Goderich	15 00	566 37						18 00	18 75	618 12
	Listowel	93 75			3,112 50	603 70	2,619 90			3 75	6,433 60
	Palmerston	165 00			16,545 90				19 50	7 50	16,737 90
	Seaforth	37 50								10 00	47 50
Toronto	Barrie	150 00			3,170 25						3,320 25
	Hornby	75 00			2,581 53						2,656 53
	Orillia	75 00			661 50						736 50
	Sault Ste. Marie	165 00	5,575 32		9,210 00	414 20	1,921 50		141 60	25 00	17,452 62
Windsor	Chatham	142 50	26,811 48			949 08	3,622 35			18 75	31,544 16
	Kingsville	105 00				124 62	423 15			7 50	660 27
	Leamington	150 00				644 00	1,775 52			7 50	2,577 02
Joliette	Berthierville		5,690 14					2 89	5,970 00		11,949 14
	L'Epiphanie	142 50		973 12		263 25	6,106 05				7,484 92
	St. Jacques	150 00				1,607 70					1,757 70
Montreal	St. Jerôme	30 00	22,442 90								22,472 90

APPENDIX C—*Continued.*

STATEMENT showing the Amount of Excise and other Revenues collected at each of the undermentioned Out-Offices, during the nine months ended March 31, 1907—*Continued.*

Divisions.	Out Offices.	Licenses.	Spirits.	Malt Liquor.	Malt.	Tobacco.	Cigars.	Manufactures in Bond.	Other Receipts.	Electric Light Inspection Fees.	Totals.
		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Montreal—*Con.*											
	Valleyfield	30 00	40,923 32				66 00				41,019 32
Quebec	Chicoutimi	15 00	3,340 28							18 75	3,374 03
	Fraserville	30 00	8,943 10							18 75	8,992 15
	Gaspé	30 00	1,442 75			1,174 38					2,647 13
	Magdalen Islands										
	Paspébiac										
	Rimouski	15 00	2,549 26							3 75	2,568 01
	Roberval	67 50	3,224 86			590 05				7 50	3,889 91
	St. Flavie	15 00	9,874 69								9,889 69
Sherbrooke	Granby	273 75				97,867 98	19,715 10				117,856 83
St. Hyacinthe	Sorel	75 00	28,155 98							18 75	28,249 73
	St. Johns	67 50	24,306 32					1,741 71	457 00		26,572 53
	Victoriaville	15 00	12,817 32							37 50	12,869 82
Three Rivers	Grand Mère	15 00	3,148 57								3,163 57
	Louiseville		1,723 03								1,723 03
	Shawenegan	37 50				205 00					242 50
St. John	Bathurst	15 00								7 50	22 50
	Campobello										
	Chatham	15 00				8,541 25				30 00	8,586 25
	Clair										
	Fredericton	15 00				13,828 50			5 00	18 75	13,867 25
	Moncton										
	Newcastle	15 00				2,864 00				18 75	2,897 75
	Sackville	15 00				2,600 75				7 50	2,623 25
	Sussex	15 00				1,666 00				7 50	1,688 50
	St. Stephen	15 00	186 74			2,875 50			1 00	18 75	3,096 99
	Woodstock	30 00	847 62			2,462 00				30 00	3,369 62
Halifax	Amherst	15 00	1,363 31			686 00				18 75	2,083 06
	Truro	15 00				8,680 25				18 75	8,714 00
	Yarmouth	86 25		345 50		3,420 50	983 10			3 75	4,839 10
Pictou	Antigonish	30 00				1,301 25				7 50	1,338 75
	New Glasgow	15 00				8,213 75				18 75	8,247 50
	North Sydney	35 00				1,856 25				48 75	1,940 00

Charlottetown	Georgetown										
	Souris										
	Summerside										
Winnipeg	Boissevain									7 50	7 50
	Brandon	288 75	56,562 30		2,625 00	2,350 50	1,339 20	1,430 88		18 75	67,615 38
	Carbury									3 75	3 75
	Carman									7 50	7 50
	Dauphin									7 50	7 50
	Estevan	15 00	2,098 24							3 75	2,116 99
	Fort Francis										
	Gretna										
	Indian Head	15 00	1,894 69							7 50	1,917 19
	Kenora	30 00	20,645 65			5,220 76				18 75	25,915 16
	Morden	15 00	2,988 00							7 50	3,010 50
	Minnedosa									7 50	7 50
	Moosejaw	7 50	346 20							18 75	372 45
	Neepawa									18 75	18 75
	Portage la Prairie	86 25	22,257 78			2,415 49	729 60	247 90		18 75	25,755 77
	Prince Albert	52 50	6,293 50		1,800 00					7 50	8,153 50
	Rainy River	15 00	5,391 46								5,406 46
	Regina	161 25	15,665 76				500 25	201 20		18 75	16,547 21
	Saskatoon	30 00	9,151 90								9,181 90
	Selkirk	15 00	3,267 69							7 50	3,290 19
	Virden	15 00	6,526 05								6,541 65
	Warman	15 00	982 03								997 03
	Wendorf	15 00	1,364 75								1,379 75
	York Factory	15 00				1,255 75					1,270 75
Calgary	Edmonton	328 75	38,872 02		12,900 15	9,947 25	3,090 90	1,333 95		18 75	66,491 77
	Fort Saskatchewan	15 00	2,205 06								2,220 06
	Lacombe	15 00	322 35								337 35
	Lethbridge	176 25	2,044 38		5,596 60	3,646 87	348 30	127 60		18 75	11,958 75
	Maple Creek	15 00	497 94								512 94
	Medicine Hat	15 00	3,321 38								3,336 38
	North Battleford	15 00	3,139 82								3,154 82
	Pincher Creek	15 00	550 61								565 61
	Stettler	15 00	635 48								650 48
	Wetaskiwin	30 00	5,247 26							7 50	5,284 76
Vancouver	Anaconda	37 50									37 50
	Ashcroft									3 75	3 75
	Atlin	37 50									37 50
	Cascade									3 75	3 75
	Cranbrook	67 50	9,809 25		60 00					7 50	9,941 25
	Fernie	108 75	10,345 14		5,466 75	121 60	435 00			18 75	16,495 99
	Golden	15 00	2,125 37								2,140 37
	Grand Forks	75 00			1,365 49					7 50	1,447 99
	Greenwood	52 50	12,357 38		1,422 08					7 50	13,839 46
	Hedley	37 50			151 12					3 75	192 37
	Kamloops	93 75			450 00	836 40	3,131 70			18 75	4,530 60
	Kaslo									7 50	7 50
	Kelowna										

APPENDIX C—*Concluded.*

STATEMENT showing the Amount of Excise and other Revenues collected at each of the undermentioned Out-Offices, during the nine months ended March 31, 1907—*Concluded.*

Divisions.	Out Offices.	Licenses.	Spirits.	Malt Liquor.	Malt.	Tobacco.	Cigars.	Manufactures in Bond.	Other Receipts.	Electric Light Inspection Fees.	Totals.
		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Vancouver—*Con.*	Michel	15 00	2,251 83							7 50	2,544 33
	Moyie	37 50									37 50
	Nelson	180 00	24,085 67		2,940 00	805 48	2,312 40			18 75	30,343 30
	New Westminster	150 00			2,880 00	1,937 20	5,661 15			18 75	10,647 10
	Phœnix	37 50			1,201 08						1,238 58
	Princts	37 50									37 50
	Revelstoke	146 25	5,269 69		702 24	126 30	623 40			7 50	6,875 38
	Rossland	15 00	7,207 33		1,476 00	211 00	793 50			18 75	9,721 58
	Sandon	37 50			555 00					3 75	596 25
	Trail	37 50			1,170 00					7 50	1,215 00
	Trout Lake	37 50									37 50
	Vernon	57 50	6,336 14		60 00					7 50	6,461 14
	Ymir	37 50									37 50
Victoria	Nanaimo	277 50	3,090 45	197 90	8,671 08	645 90	1,768 20		13 00	18 75	14,682 78
Dawson											
		8,535 25	994,592 78	12,669 81	185,673 45	234,957 33	93,686 07	6,222 21	13,630 98	1,543 75	1,551,511 63

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

W. J. GERALD,
Deputy Minister.

FINANCIAL RETURNS, 1906-1907

DR. No. 1.—GENERAL REVENUES ACCOUNT FOR NINE MONTHS ENDED MARCH 31, 1907. CR.

Memo. of Refunds deducted below.	Amounts deposited to the credit of the Receiver General.	Balances due March 31, 1907.	Totals.	Services.	Revenues of previous years not collected July 1, 1906.	Revenues accrued 1906-1907 nine months.	Totals.
$ cts.	$ cts.	$ cts.	$ cts.		$ cts.	$ cts.	$ cts.
165,945 53	11,930,298 01	13,409 73	11,943,707 74	Excise and Seizures, per Statement No. 3	13,554 92	11,930,152 82	11,943,707 74
	3,020 00	27,467 17	30,487 17	Hydraulic and other rents, per Statement No. 5	27,940 17	2,547 00	30,487 17
	179 00	12,477 99	12,656 99	Minor Public Works, per Statement No. 6	12,472 16	184 83	12,656 99
46 83	54,974 09	92 72	55,066 81	Weights and Measures, per Statements Nos. 19 (A) and 19 (B)	196 21	54,870 60	55,066 81
	31,917 00		31,917 00	Gas Inspection, per Statement No. 21		31,917 00	31,917 00
27 88	25,951 18		25,951 18	Electric Light Inspection, per Statement No. 23		25,951 18	25,951 18
	7,336 10		7,336 10	Law Stamps, per Statements Nos. 10 and 18		7,336 10	7,336 10
		45 04	45 04	Bill Stamps, per Statement No. 9	45 04		45 04
	1,306 00		1,306 00	Sundry Minor Revenues, per Statement No. 11		1,306 00	1,306 00
	42,664 80		42,664 80	Methylated Spirits, per Statement No. 25		42,664 80	42,664 80
166,020 24	12,097,646 18		12,151,138 83			12,096,930 33	12,151,138 83
	166,020 24		166,020 24	....Less—Refunds, as per Statement No. 16		166,020 24	166,020 24
	11,931,625 94	53.492 65	11,985,118 59	Totals	54,208 50	11,930,910 09	11,985,118 59

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

W. J. GERALD,
Deputy Minister.

DR. No. 2.—GENERAL EXPENDITURES ACCOUNT

Balances due to Collectors, &c., July 1, 1906.	Expenditures Authorized by the Department.			Balances due by Collectors, &c., March 31, 1907.	Totals.	Services.
	Salaries.	Contingencies.	Seizures.			
$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	
603 79	290,418 69	114,567 80	201 90	343 98	406,136 16	Excise and Seizures, per Statement No. 4
			1,429 38		1,429 38	Excise Seizures, distributed per Statement No. 4 and Appendix B
	1,649 97	6,936 24			8,586 21	Preventive Service, per Statement No. 7
	10,664 17	11,748 88			21,813 05	Adulteration of Food, per Statement No. 8
						Sundry Minor Expenditures, per Statement No. 12
	41,465 01	5,159 20		16 66	46,640 87	Departmental Expenditures, per Statement No. 17
	45,397 13	24,055 72	13 30	193 26	69,659 41	Weights and Measures, per Statements Nos. 20 (A) and 20 (B)
	17,643 02	5,199 12		212 88	23,055 02	Gas Inspection, per Statement No. 22
	3,295 64	4,656 06			7,951 70	Electric Light Inspection, per Statement No. 24
	3,412 32	39,195 01			42,607 33	Methylated Spirits, per Statement No. 25
603 79	413,345 95	211,518 03	1,644 58	766 78	627,879 13	Totals

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

SESSIONAL PAPER No. 12

FOR NINE MONTHS ENDED MARCH 31, 1907. Cr.

Balances due by Collectors, &c., July 1, 1906.	Amounts disbursed by the Receiver-General, on requisition of the Department.	Deductions from Salaries for				Balances due to Collectors, &c., March 31, 1907.	Totals.
		Superannuation.	Insurance.	Retirement.	Guarantee.		
$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
343 98	395,653 58	3,596 97	182 58	5,330 58	979 39	49 08	406,136 16
.....	1,429 38	.....	.....	.....	.....	.....	1,429 38
.....	8,581 89	.....	.....	.....	4 32	.....	8,586 21
.....	21,725 27	87 78	.....	.....	.....	.....	21,813 05
.....	.....	.....	.....	.....	.....	.....	.....
16 66	45,576 50	444 36	87 30	516 05	.....	.....	46,640 87
193 26	69,142 33	201 56	.....	.....	122 26	.....	69,659 41
212 88	22,636 96	103 31	.....	3 75	98 12	.....	23,055 02
.....	7,945 10	.....	.....	.....	6 60	.....	7,951 70
.....	42,532 30	.....	.....	75 03	.....	.....	42,607 33
766 78	615,223 31	4,433 98	269 88	5,925 41	1,210 69	49 08	627,879 13

W. J. GERALD,
Deputy Minister.

EXCISE, FOR NINE MONTHS

No. 3.—Collection Divisions

(For Details,

Balances due July 1, 1906.	Amount Accrued during the nine months, including License Fees.							
	Spirits.	Malt Liquor.	Malt.	Tobacco.	Cigars.	Acetic Acid.	Bonded manufactures.	Seizures.
$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
	119,317 10	37 50	7,643 21	1,393 90	1,629 45			
112 61	28,283 67	112 50	9,462 21	8,302 50	26,560 05		887 47	
	5,550 42			1 50				15 00
	380,099 27	300 00	72,561 33	12,490 94	15,278 40		37 50	
	222,569 49	75 00	46,478 40	341,169 17	76,351 95		4,410 88	
	58,734 97	75 00	5,417 97	14,328 57	14,124 00		1,548 98	
	57,709 22	225 00	59,520 96	53,890 70	149,184 53			200 00
	243,142 16	112 50	10,428 54	30,018 92	3,301 65		518 74	25 00
	181 56	187 50	12,255 65	25,135 30	2,824 80			
	98,790 15	37 50	5,221 50	21,558 04	628 35		75 00	
	34,806 73	112 50	14,316 59	247 23	973 50			
	36,472 87	50 00	3,089 40	3,474 37				
	93,990 74	112 50	12,939 82	625 10	1,610 25		225 00	
	8,537 82	75 00	15,446 04	1,858 26	7,438 65			
	25,690 47	112 50	21,153 60	9,136 10	7,699 17			
	747,430 26	525 00	196,277 43	152,604 85	105,959 78		16,224 25	85 00
	344,375 80	75 00	46,546 28	11,763 05	8,433 03		150 00	
522 89								
635 50	2,505,682 70	2,225 00	538,758 93	687,998 50	421,997 56		24,077 82	325 00
	24,998 28			6,326 26	9,123 30			25 00
1,046 01	1,458,281 85	375 00	214,591 93	2,515,916 52	295,138 48	1,944 50	6,975 79	502 67
31 20	348,132 52	187 50	56,694 01	121,002 50	36,443 61		2,174 45	313 65
	130,838 92	37 50	12,955 50	108,562 88	41,702 76		225 00	
	109,492 83		1,950 00	1,183 65	8,301 62		2,797 05	
	59,753 82			811 39	2,139 87			
3,295 57								
4,372 78	2,131,498 22	600 00	286,191 44	2,753,803 20	392,849 64	1,944 50	12,172 29	841 32
41 43	129,790 77	75 00	17,400 00	62,062 43	13,445 10		2,007 12	115 00
1,442 62								
1,484 05	129,790 77	75 00	17,400 00	62,062 43	13,445 10		2,007 12	115 00
	42,856 39	112 50	33,910 38	67,348 25	3,158 13			
	11,211 62			18,531 09	323 55			100 00
5,860 50								
5,860 50	54,068 01	112 50	33,910 38	85,879 34	3,481 68			100 00
				28,418 53				
	609,501 79	692 55	70,248 72	303,770 23	40,197 79		2,204 62	
	113,580 73	150 00	41,677 20	43,140 54	5,710 80			160 00
	723,082 52	842 55	111,925 92	346,910 77	45,908 59		2,204 62	160 00

ENDED MARCH 31, 1907.

in Account with Revenues.

see Appendix A.)

Other Receipts.	Total Duties Accrued.	Total Debits.	Divisions.	Deposited to the Credit of the Receiver General.	Balances due March 31, 1907.	Total Credits.
$ cts.	$ cts.	$ cts.		$ cts.	$ cts.	$ cts.
1,910 00	131,931 16	131,931 16	Belleville	131,931 16		131,931 16
480 00	74,088 40	74,201 01	Brantford	74,088 40	112 61	74,201 01
48 75	5,615 67	5,615 67	Cornwall	5,615 67		5,615 67
5,257 24	486,024 68	486,024 68	Guelph	486,024 68		486,024 68
2,266 11	693,321 00	693,321 00	Hamilton	693,321 00		693,321 00
323 50	94,552 99	94,552 99	Kingston	94,552 99		94,552 99
100 88	320,831 29	320,831 29	London	320,831 29		320,831 29
420 05	287,967 56	287,967 56	Ottawa	287,967 56		287,967 56
75 00	40,659 81	40,659 81	Owen Sound	40,659 81		40,659 81
568 25	126,878 79	126,878 79	Perth	126,878 79		126,878 79
60 00	50,516 55	50,516 55	Peterborough	50,516 55		50,516 55
120 00	43,206 64	43,206 64	Port Arthur	43,206 64		43,206 64
1,489 90	110,993 31	110,993 31	Prescott	110,993 31		110,993 31
72 50	33,428 27	33,428 27	St. Catharines	33,428 27		33,428 27
60 00	63,851 84	63,851 84	Stratford	63,851 84		63,851 84
8,093 35	1,227,199 92	1,227,199 92	Toronto	1,227,199 92		1,227,199 92
14,555 22	425,898 38	425,898 38	Windsor	425,898 38		425,898 38
		522 89	Suspense Account		522 89	522 89
35,900 75	4,216,966 26	4,217,601 76	*Ontario*	4,216,966 26	635 50	4,217,601 76
5,985 00	46,457 82	46,457 82	Joliette	46,457 82		46,457 82
2,624 18	4,496,350 92	4,497,396 93	Montreal	4,496,431 43	965 50	4,497,396 93
725 15	565,673 39	565,704 59	Quebec	565,696 64	7 95	565,704 59
145 00	294,467 56	294,467 56	Sherbrooke	294,467 56		294,467 56
840 00	124,565 15	124,565 15	St. Hyacinthe	124,565 15		124,565 15
90 00	62,795 08	62,795 08	Three Rivers	62,795 08		62,795 08
		3,295 57	Suspense Account		3,295 57	3,295 57
10,409 33	5,590,302 92	5,594,682 70	*Quebec*	5,590,413 68	4,269 02	5,594,682 70
675 00	225,570 42	225,611 85	St. John	225,611 85		225,611 85
		1,442 62	Suspense Account		1,442 62	1,442 62
675 00	225,570 42	227,054 47	*New Brunswick*	225,611 85	1,442 62	227,054 47
225 00	147,610 65	147,610 65	Halifax	147,610 65		147,610 65
110 00	30,276 26	30,276 26	Pictou	30,276 26		30,276 26
		5,860 50	Suspense Account		5,860 50	5,860 50
335 00	177,886 91	183,747 41	*Nova Scotia*	177,886 91	5,860 50	183,747 41
	28,418 53	28,418 53	Charlottetown, P.E.I	28,418 53		28,418 53
1,017 00	1,027,632 70	1,027,632 70	Winnipeg	1,027,632 70		1,027,632 70
355 00	204,774 27	204,774 27	Calgary	204,774 27		204,774 27
1,372 00	1,232,406 97	1,232,406 97	*Manitoba and Alberta*	1,232,406 97		1,232,406 97

7-8 EDWARD VII., A. 1908

EXCISE FOR NINE MONTHS

No. 3.—Collection Divisions

(For Details,

Balances due July 1, 1906.	Amount Accrued during the nine months, including License Fees.							
	Spirits.	Malt Liquor.	Malt.	Tobacco.	Cigars.	Acetic Acid.	Bonded manufactures.	Seizures.
$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
1,202 09	162,594 60	1,804 80	36,410 82	71,723 53	26,015 70	....	1,360 12	55 25
... .	94,434 35	1,252 80	17,242 91	27,575 06	9,059 35	.....	... .. .	.....
1,202 09	257,028 95	3,057 60	53,653 73	99,298 59	35,075 05	.....	1,360 12	55 25
.....	6,590 83	.....	1,041 19	757 50	....	.....	.... ..	....
13,554 92	5,807,741 98	6,912 65	1,042,881 59	4,065,128 86	912,757 62	1,944 50	41,821 97	1,596 52
....	77,467 21	....	17,203 92	70,974 40	... .	.. ....	....	....
... .	5,730,274 77	6,912 65	1,025,677 67	3,994,154 46	912,757 62	1,944 50	41,821 97	1,596 57

Inland Revenue Department,
Ottawa, May 31, 1907.

SESSIONAL PAPER No. 12

ENDED MARCH 31, 1907—*Concluded.*

in Account with Revenues.

see Appendix A.)

Other Receipts.	Total Duties Accrued.	Total Debits.	Divisions.	Deposited to the Credit of the Receiver General.	Balances due March 31, 1907.	Total Credits.
$ cts.	$ cts.	$ cts.		$ cts.	$ cts.	$ cts.
555 00	300,519 82	301,721 91	Vancouver	300,519 82	1,202 09	301,721 91
120 00	149,684 47	149,684 47	Victoria	149,684 47		149,684 47
675 00	450,204 29	451,406 38	*British Columbia*	450,204 29	1,202 09	451,406 38
	8,389 52	8,389 52	Yukon	8,389 52		8,389 52
49,367 08	11,930,152 82	11,943,707 74	Totals	11,930,298 01	13,409 73	11,943,707 74
300 00	165,945 53		Less refunds as per Statement No. 16			
49,067 08	11,764,207 29		Net Revenue			

W. J. GERALD,
Deputy Minister.

EXCISE, FOR

DR. No. 4.—COLLECTION DIVISIONS

Balances due by Collectors, July 1, 1906.	Amounts received from Department to meet Expenditures.	Deductions from Salaries for				Balances due to Collectors, March 31, 1907.	Totals.	Divisions.
		Superannuation.	Insurance.	Retirement.	Guarantee.			
$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	
43 98	9,057 18	137 95	.....	85 93	23 22	.....	9,348 26	..Belleville.....
.....	4,931 32	59 77	.....	79 21	13 38	.....	5,083 68	..Brantford.....
.....	917 16	16 95	.....	.....	2 70	.....	936 81	..Cornwall.....
.....	14,078 28	238 62	.....	116 01	39 35	.....	14,472 26	..Guelph.....
.....	16,870 98	198 03	.....	309 26	53 88	.....	17,432 15	..Hamilton.....
.....	6,522 36	76 62	.....	50 24	21 06	.....	6,670 28	..Kingston.....
.....	16,520 15	218 07	53 82	233 53	47 32	.....	17,072 89	..London.....
.....	6,740 29	62 34	.....	173 70	22 14	.....	6,998 47	..Ottawa.....
.....	4,621 80	46 04	.....	52 93	11 88	.....	4,732 65	..Owen Sound.....
.....	6,766 66	42 99	.....	186 06	27 48	.....	7,023 19	..Perth.....
.....	3,045 24	22 50	.....	87 72	9 72	.....	3,165 18	..Peterborough.....
.....	1,560 92	.....	.....	31 20	7 02	.....	1,599 14	..Port Arthur.....
.....	8,646 54	92 76	33 48	134 89	25 48	.....	8,933 15	..Prescott.....
.....	4,074 07	80 73	.....	41 84	13 66	.....	4,210 30	..St. Catharines.....
.....	5,205 04	41 55	19 70	148 68	17 28	.....	5,432 25	..Stratford.....
.....	33,602 68	470 46	31 32	566 91	97 20	.....	34,768 57	..Toronto.....
.....	18,566 87	226 78	18 54	386 07	62 51	49 08	19,309 85	..Windsor.....
.....	6,610 36	37 50	.....	.....	20 25	.....	6,668 11	..District Inspectors.....
43 98	168,337 90	2,069 66	156 86	2,684 18	515 53	49 08	173,857 19	...*Ontario*.....
.....	6,578 41	21 96	.....	256 07	21 33	.....	6,877 77	..Joliette.....
.....	37,192 82	404 94	.....	781 29	121 26	.....	38,500 31	..Montreal.....
.....	17,467 66	163 20	.....	192 29	39 96	.....	17,863 11	..Quebec.....
.....	5,489 27	48 03	.....	135 18	18 36	.....	5,690 84	..Sherbrooke.....
.....	9,905 14	53 91	25 72	297 82	31 35	.....	10,313 94	..St. Hyacinthe.....
.....	2,480 54	35 76	.....	28 47	8 91	.....	2,553 68	..Three Rivers.....
.....	4,054 52	37 50	.....	93 75	13 50	.....	4,199 27	..District Inspectors.....
.....	83,168 36	765 30	25 72	1,784 87	254 67	.....	85,998 92	..*Quebec*.....
.....	7,552 47	119 01	.....	32 66	25 92	.....	7,730 06	..St. John.....
.....	2,152 10	37 50	.....	.....	6 75	.....	2,196 35	..District Inspector.....
.....	9,704 57	156 51	.....	32 66	32 67	.....	9,926 41	....*New Brunswick*.....
.....	9,820 70	176 27	.....	14 97	31 08	.....	10,043 02	..Halifax.....
.....	2,196 10	16 95	.....	55 08	7 02	.....	2,275 15	..Pictou.....
.....	12,016 80	193 22	.....	70 05	38 10	.....	12,318 17	....*Nova Scotia*.....
100 00	1,828 71	14 97	.....	.....	4 86	.....	1,948 54	....*Charlottetown, P.E.I.*..
200 00	14,311 53	167 91	.....	251 39	40 98	.....	14,971 81	..Winnipeg.....
.....	6,131 87	23 30	.....	92 29	12 96	.....	6,260 42	..Calgary.....
.....	3,325 17	37 50	.....	.....	6 75	.....	3,369 42	..District Inspector.....
200 00	23,768 57	228 71	.....	343 68	60 69	.....	24,601 65	....*Manitoba and Alberta*.

SESSIONAL PAPER No. 12

NINE MONTHS ENDED MARCH 31, 1907.

in Account with Expenditures Cr.

Balances due to Collectors, July 1, 1906.	Expenditures Authorized by the Department.						Balances due by Collectors, March 31, 1907.	Totals
	Salaries.	Seizures Expenditures.	Special Assistance	Rent.	Travelling Expenses.	Sundries.		
$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
.....	8,233 17	.....	371 89	.. ....	315 89	383 33	43 98	9,348 26
....	3,924 11	... .	539 37	... .	431 25	188 95	.. . .	5,083 68
....	849 96	14 25	.. ..	....	.....	72 60	.....	936 81
.....	13,635 19	.....	.....	112 50	354 10	370 47	.....	14,472 26
.....	16,604 92	.. . ...	535 60	....	75 25	216 38	....	17,432 15
.....	6,195 20	... .	....	135 00	78 05	262 03	.....	6,670 28
92 81	16,328 97	18 15	80 00	.....	281 64	271 32	....	17,072 89
.... .	6,567 97	0 50	327 55	....	.....	102 45	. .... .	6,998 47
.... . .	4,257 36	.....	....	93 75	276 10	105 44	.....	4,732 65
... .	6,171 93	....	374 94	90 00	141 33	244 99	....	7,023 19
.... .	2,880 00	....	.....	.....	156 40	128 78	.....	3,165 18
.. . .	1,474 95	... ...	....	.....	81 15	43 04	....	1,599 14
..... .	8,012 49	....	666 56	... .	29 45	224 65	.. ..	8,933 15
.....	3,911 40	... .	....	43 00	123 15	132 75	. .. ...	4,210 30
....	5,055 18	... .	..... .	.....	188 00	189 07	... . .	5,432 25
... .	33,603 06	.....	.....	.....	503 10	662 41	.....	34,768 57
49 08	18,345 93	.... ..	341 85	63 00	290 90	219 09	... .	19,309 85
....	5,625 00	.....	.....	100 00	818 46	124 65	. .....	6,668 11
141 89	161,676 79	32 90	3,237 76	637 25	4,144 22	3,942 40	43 98	173,857 19
... .	6,222 68	15 10	374 94	..... .	98 60	166 45	....	6,877 77
....	34,203 95	43 43	2,877 90	.....	604 35	770 68	....	38,500 31
.....	12,317 31	58 42	4,085 87	.. .. ..	739 47	662 04	....	17,863 11
... .	5,106 24	.....	.....	.....	417 60	167 00	.....	5,690 84
.....	8,211 83	.. . ..	1,595 77	108 00	133 85	264 49	.. ..	10,313 94
.....	2,359 98	....	80 27	.... . .	52 85	60 58	.....	2,553 68
.. ..	3,750 00	..... .	....	.....	418 35	30 92	....	4,199 27
.....	72,171 99	116 95	9,014 75	108 60	2,465 07	2,122 16	... .	85,998 92
. ...	6,695 18	24 20	749 88	....	54 00	206 80	.....	7,730 06
....	1,875 00	.....	....		296 55	24 80	....	2,196 35
....	8,570 18	24 20	749 88	....	350 55	231 60	.....	9,926 41
....	9,745 15	....	.....	. ....	98 65	199 22	....	10,043 02
....	1,952 46	27 85	....	....	150 20	144 64	.....	2,275 15
....	11,697 61	27 85	.....	.. ..	248 85	343 86	....	12,318 17
.....	1,789 98	.. ..	....	. . ..	.....	58 56	100 00	1,948 54
.....	11,918 90	..... .	1,629 15	135 00	727 20	361 56	200 00	14,971 81
461 90	3,012 56	.. ..	1,055 61	230 00	1,069 05	431 30	... .	6,260 42
....	1,875 00	.... . .	....	.... . .	1,382 35	112 07	.... . .	3,369 42
461 90	16,806 46	. ... .	2,684 76	365 00	3,178 60	904 93	200 00	24,601 65

7-8 EDWARD VII., A. 1908

EXCISE FOR

DR. No. 4.—COLLECTION DIVISIONS

Balances due by Collectors, July 1, 1906.	Amounts received from Department to meet Expenditures.	Deductions from Salaries for				Balances due to Collectors, March 31, 1907.	Totals.	Divisions.
		Superannuation.	Insurance.	Retirement.	Guarantee.			
$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	
	13,029 21	51 75		362 73	45 60		13,489 29	Vancouver
	5,081 17	107 85		11 97	15 12		5,219 11	Victoria
	2,042 15				6 75		2,048 90	District Inspector
	20,152 53	159 60		377 70	67 47		20,757 30	*British Columbia*
	707 13			37 44	5 40		749 97	Yukon
	327 98						327 98	Inspector of Bonded Factories
	746 80	4 50					751 30	Inspector of Breweries and Malt Houses
	323 13						323 13	Inspector of Distilleries
	232 03	4 50					236 53	Inspector of Tobacco Factories
	8,857 12						8,857 12	General Expenditures
	203 40						203 40	Legal Expenses
	43,366 78						43,366 78	Printing Tobacco Stamps
	27 20						27 20	Technical Translation
	5,777 98						5,777 98	Printing
	1,458 31						1,458 31	Stationery
	939 70						939 70	Lithographing and Engraving, &c
	4,318 51						4,318 51	Commission to Customs Officers
	5 49						5 49	Commission on sale of Stamps for Canada Twist
	6,985 80						6,985 80	Duty-pay to Officers in charge of most important establishments
	2,398 78						2,398 78	Provisional Allowance
343 98	395,653 58	3,596 97	182 58	5,330 58	979 39	49 08	406,136 16	Grand Totals

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

SESSIONAL PAPER No. 12

NINE MONTHS ENDED MARCH 31, 1907.

in Account with Expenditures—*Concluded.* CR.

Balances due to Collectors, July 1, 1906.	Expenditures Authorized by the Department.						Balances due by Collectors, March 31, 1907.	Totals.
	Salaries.	Seizures Expenditures.	Special Assistance	Rent.	Travelling Expenses.	Sundries.		
$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
.....	9,843 28	.....	2,044 78	432 00	523 17	646 06	.....	13,489 29
.....	4,337 43	.....	483 32	.....	261 30	137 06	.....	5,219 11
.....	1,875 00	.....	.....	.....	173 90	.....	.....	2,048 90
.....	16,055 71	.....	2,528 10	432 00	958 37	783 12	.....	20,757 30
.....	749 97	.....	.....	.....	.....	.....	.....	749 97
.....	225 00	.....	.....	.....	102 98	.....	.....	327 98
.....	225 00	.....	.....	.....	526 30	.....	.....	751 30
.....	225 00	.....	.....	.....	93 95	4 18	.....	323 13
.....	225 00	.....	.....	.....	11 53	.....	.....	236 53
.....	.....	.....	.....	.....	.....	8,857 12	.....	8,857 12
.....	.....	.....	.....	.....	.....	203 40	.....	203 40
.....	.....	.....	.....	.....	.....	43,366 78	.....	43,366 78
.....	.....	.....	.....	.....	.....	27 20	.....	27 20
.....	.....	.....	.....	.....	.....	5,777 98	.....	5,777 98
.....	.....	.....	.....	.....	.....	1,458 31	.....	1,458 31
.....	.....	.....	.....	.....	.....	939 70	.....	939 70
.....	.....	.....	.....	.....	.....	4,318 51	.....	4,318 51
.....	.....	.....	.....	.....	.....	5 49	.....	5 49
.....	.....	.....	.....	.....	.....	6,985 80	.....	6,985 80
.....	.....	.....	.....	.....	.....	2,398 78	.....	2,398 78
603 79	290,418 69	201 90	18,215 25	1,542 25	12,080 42	82,729 88	343 98	406,136 16

W. J. GERALD,
Deputy Minister.

HYDRAULIC AND OTHER RENTS, FOR NINE MONTHS ENDED MARCH 31, 1907.

DR. No. 5.—SUMMARY STATEMENT OF LESSEES ACCOUNTS. CR.

Balances due July 1, 1906.	Accrued during the nine months ended March 31, 1907.	Totals.	——	Deposited to the credit of the Receiver General.	Balances due Mar. 31, 1907.	Totals.
$ cts.	$ cts.	$ cts.		$ cts.	$ cts.	$ cts.
			...Chaudière Falls and Ottawa River..	2,987 00	1,427 84	4,414 84
1,944 84	2,470 00	4,414 84	.. St. Lawrence River	1 00	225 00	226 00
200 00	26 00	226 00	...Rivière du Lièvre.		70 00	70 00
70 00		70 00	....Sundry properties	32 00	696 00	728 00
677 00	51 00	728 00				
			Land Sales.			
			....Principal account		15,573 50	15,573 50
15,573 50		15,573 50	....Interest		9,474 83	9,474 83
9,474 83		9,474 83				
27,940 17	2,547 00	30,487 17	.... Totals.	3,020 00	27,467 17	30,487 17

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

W. J. GERALD,
Deputy Minister.

DR. No. 6.—MINOR PUBLIC WORKS, FOR NINE MONTHS ENDED MARCH 31, 1907. CR.

Balances due July 1, 1906.	Accrued during the nine months ended March 31, 1907.	Totals.		Deposited to the credit of the Receiver General.	Balances due March 31, 1907.	Totals.
$ cts.	$ cts.	$ cts.	*Bridges.*	$ cts.	$ cts.	$ cts.
2,600 62		2,600 62	Dunnville		2,600 62	2,600 62
			Ferries.			
	50 00	50 00	Buffalo and Point Abinot	50 00		50 00
40 00	5 83	45 83	Clair Station and Kent		45 83	45 83
20 00		20 00	Edmundston and Maine		20 00	20 00
	50 00	50 00	Fort Erie and Buffalo	50 00		50 00
1 736 79		1,736 79	Hull (old lease)		1,736 79	1,736 79
	1 00	1 00	Ouellette Street, Detroit	1 00		1 00
1 00		1 00	Pembroke and Allumette Island (old lease)		1 00	1 00
	1 00	1 00	Sandwich and Detroit	1 00		1 00
30 00		30 00	St. Leonard and Van Buren		30 00	30 00
			Sundries.			
8,000 00		8,000 00	Dundas and Waterloo Road		8,000 00	8,000 00
	2 00	2 00	Government telegraph lines	2 00		2 00
	25 00	25 00	Wiarton docks	25 00		25 00
43 75		43 75	Part of building, Portland, N.B.		43 75	43 75
	50 00	50 00	Building, Ouellette Avenue, Windsor, Ont	50 00		50 00
12,472 16	184 83	12,656 99	Totals	179 00	12,477 99	12,656 99

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

W. J. GERALD,
Deputy Minister.

PREVENTIVE SERVICE, FOR NINE MONTHS ENDED MARCH 31, 1907.

DR. No. 7.—IN ACCOUNT WITH EXPENDITURES. CR

Amounts received from Department to meet Expenditures.	Guarantee.	Totals.		Expenditures Authorized by the Department.				Totals.
				Salaries.	Special Assistance.	Travelling Expenses.	Sundries.	
$ cts.	$ cts.	$ cts		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
2 00		2 00	Ottawa, Ont.			2 00		2 00
1,725 07	4 32	1,729 39	Toronto, Ont.	974 97	599 94	145 30	9 18	1,729 39
225 00		225 00	Joliette, Que.		225 00			225 00
461 20		461 20	Montreal, Que.		450 00	11 20		461 20
2,784 64		2,784 64	Quebec, Que.		2,439 33	345 31		2,784 64
450 00		450 00	St. Hyacinthe, Que.		450 00			450 00
33 45		33 45	Sherbrooke, Que.			33 45		33 45
1,018 95		1,018 95	St. John, N.B.	675 00	225 00	118 95		1,018 95
180 45		180 45	Halifax, N.S.		149 94	30 51		180 45
801 99		801 99	Pictou, N.S.		675 00	125 74	1 25	801 99
486 64		486 64	Winnipeg, Man.		486 64			486 64
11 20		11 20	Victoria, B.C.			11 20		11 20
401 30		401 30	General				401 30	401 30
8,581 89	4 32	8,586 21	Totals	1,649 97	5,700 85	823 6	411 73	8,586 21

W. J. GERALD,
Deputy Minister.

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

FOOD INSPECTION, FOR NINE MONTHS ENDED MARCH 31, 1907.

DR. — No. 8.—IN ACCOUNT WITH EXPENDITURES — CR.

Amounts received from Department to meet Expenditures.	Superannuation.	Totals.		Expenditures Authorized by the Department.					Totals.
				Salaries.	Special Assistance.	Rent.	Travelling Expenses.	Sundries.	
$ cts.	$ cts.	$ cts.		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
9,980 56	79 53	10,060 09	Chief analyst	7,792 93	362 67	300 00	415 20	1,189 29	10,060 09
139 80		139 80	Kingston, Ont	75 00			27 85	36 95	139 80
246 73		246 73	Ottawa, Ont	143 44			42 20	61 09	246 73
771 82		771 82	Seaforth, Ont	375 00		90 00	219 15	87 67	771 82
3 50		3 50	Toronto, Ont				3 50		3 50
528 31	5 25	533 56	Montreal, Que	262 50			117 85	153 21	533 56
399 99		399 99	Quebec, Que	177 80			145 14	77 05	399 99
438 82		438 82	St. Hyacinthe, Que	150 00			207 31	81 51	438 82
324 24	3 00	327 24	St. John, N.B	150 00			112 28	64 96	327 24
376 20		376 20	Halifax, N.S	262 50			80 14	33 56	376 20
220 64		220 64	Charlottetown, P.E.I	150 00			41 10	29 54	220 64
404 45		404 45	Calgary, Man	150 00			163 80	90 65	404 45
602 82		602 82	Winnipeg, Man	150 00			383 65	69 17	602 82
75 00		75 00	Victoria, B.C	75 00					75 00
174 50		174 50	Vancouver, B.C	150 00			2 25	22 25	174 50
4,441 13		4,441 13	General					4,441 13	4,441 13
237 03		237 03	Stationery					237 03	237 03
2,324 01		2,324 01	Printing					2,324 01	2,324 01
35 72		35 72	Technical translation					35 72	35 72
21,725 27	87 78	21,813 05	Totals	10,064 17	362 67	390 00	1,961 42	9,034 79	21,813 05

W. J. GERALD,
Deputy Minister.

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

BILL STAMPS, FOR NINE MONTHS ENDED MARCH 31, 1907.

DR. No. 9.—BILL STAMP Distributors in account with the Inland Revenue Department. CR.

BALANCES JULY 1, 1906.		Totals.		BALANCES, MARCH 31, 1907.		Totals.
Stamps on hand.	Cash on hand.			Stamps on hand.	Cash on hand.	
$ cts.	$ cts.	$ cts.		$ cts.	$ cts.	$ cts.
1,372 77	.....	1,372 77	.....Post Office Department.....	1,372 77	.....	1,372 77
.....	11 54	11 54	..... Belleville, ex-Collector E. R. Benjamin	.....	11 54	11 54
.....	33 50	33 50	.....Three Rivers, ex-Collector B. Lasalle.....	.....	33 50	33 50
160 00	.....	160 00	.....McLeod, Colonel J. F., Fort Mcleod..	160 00	.....	160 00
1,532 77	45 04	1,577 81	..... Totals.....	1,532 77	45 04	1,577 81

W. J. GERALD,
Deputy Minister.

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

LAW STAMPS, FOR NINE MONTHS ENDED MARCH 31, 1907.

DR. No. 10.—LAW STAMPS in account with the Inland Revenue Department. CR.

Stamps on hand July 1, 1906.	Stamps received from Department.	Totals.	——	Commission of 5 per cent allowed by Department on stamps sold.	Deposited to the Credit of the Receiver General.	Stamps on hand March 31, 1907.	Totals.
$ cts.	$ cts.	$ cts.		$ cts.	$ cts.	$ cts.	$ cts.
.....	1,400 00	1,400 00	..... Cameron, R., Registrar, Supreme Court...	70 00	1,330 00	....	1,400 00
... .	2,735 00	2,735 00	.... Audette. L. A., Registrar, Exchequer Court	136 75	2,598 25	....	2.735 00
10,572 75	2,750 00	13,322 75	.....Lithgow, J. T., Dawson, Yukon Territorial Court..	.. ..	3,065 10	10,257 65	13,322 75
2,210 00	200 00	2,410 00	.. ... " " Yukon Mining Court.....	....	342 75	2,067 25	2,410 00
12,782 75	7,085 00	19,867 75	....Totals.....	206 75	7,336 10	12,324 90	19,867 75

W. J. GERALD,
Deputy Minister.

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

DR. No. 11.—SUNDRY MINOR REVENUES, FOR NINE MONTHS ENDED MARCH 31, 1907. CR.

Accrued during the nine months ended March 31, 1907.	Totals.	——	Deposited to the Credit of the Receiver General.	Totals.
$ cts	$ cts.		$ cts.	$ cts.
514 00	514 00	Fertilizer Inspection Fees	514 00	514 00
743 25	743 25	Adulteration of Food Fees	743 25	743 25
48 75	48 75	Casual Revenue	48 75	48 75
1,306 00	1,306 00		1,306 00	1,306 00

W. J. GERALD,
Deputy Minister.

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

SESSIONAL PAPER No. 12

DR. No. 12.—MINOR EXPENDITURES, FOR NINE MONTHS ENDED MARCH 31, 1907. CR.

Amounts received from Department to meet Expenditures.	Totals.	——	Contingencies.	Totals.
$ cts.	$ cts.		$ cts.	$ cts.
Nil.	Nil.	Minor expenditures	Nil.	Nil.

W. J. GERALD,
Deputy Minister.

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

No. 13.—Statement showing the quantities of the several articles subject to Excise months ended March 31, 1907,

Articles Subject to Excise Duty.	1905. Quantities. Ex-Manufactory.	Ex-Warehouse.	Totals.	Duty.
	Gallons.	Gallons.	Gallons.	$ cts.
Spirits	200	3,112,843	3,113,043	5,899,444 47
	Imported.	*160,208	160,208	48,062 37
		634	634	
Totals	200	3,273,051	3,273,251	5,947,506 84
		634	634	
Malt liquor, the duty being paid on malt	30,330,370		30,330,370	2,499 30
	Lbs.	Lbs.	Lbs.	
Malt	7,542	75,509,810	75,517,352	1,134,538 70
Cigars—	No.	No.	No.	
Foreign	88,060,472	88,566,145	176,626,617	1,059,780 16
Canadian	2,069,190	193,210	2,262,400	6,787 20
Combination	2,896,820	4,324,940	7,221,760	21,665 28
Totals	93,026,482	93,084,295	186,110,777	1,088,232 64
Cigarettes—				
Foreign	240,371,687	2,138,370	242,510,057	733,140 17
Canadian				
Combination	3,779,900	4,570,430	8,350,330	12,525 50
Totals	244,151,587	6,708,800	250,860,387	745,665 67
	Lbs.	Lbs.	Lbs.	
Tobacco from Foreign Leaf	916,571	7,343,707	8,260,278	2,065,070 08
" Canadian leaf	3,044,133	63,694	3,107,827	155,391 36
" Combination	1,170,234	708,504	1,878,738	93,937 17
Snuff	164,901		164,901	30,256 73
Canadian twist		32,867	32,867	1,643 35
Totals	5,295,839	8,148,772	13,444,611	3,091,964 36
Raw leaf tobacco, foreign		12,387,376	12,387,376	1,317,186 19
Total duties on tobacco and cigarettes				4,409,150 55
Vinegar				48,441 53
Acetic acid				7,595 61
Licenses, spirits				3,125 00
" malt liquor				6,625 00
" malt				6,100 00
" cigars				15,510 00
" tobacco				3,223 50
" bonded manufactures				2,700 00
" acetic acid				100 00
Grand total duty				12,675,346 67

* Spirits imported for use in the manufacture of crude fulminate, on which duty at a rate of 30 cents

Inland Revenue Department,
Ottawa, May 31, 1907.

SESSIONAL PAPER No. 12

Duty taken for consumption, during the years ended June 30, 1905, 1906 and nine also the Duty accrued thereon.

1906.				1907 (9 months).			
Quantities.			Duty.	Quantities.			Duty.
Ex-Manufactory.	Ex-Warehouse.	Totals.		Ex-Manufactory.	Ex-Warehouse.	Totals.	
Gallons.	Gallons.	Gallons.	$ cts.	Gallons.	Gallons.	Gallons.	$ cts.
3,765	3,545,785	3,549,550	6,721,008 08	4,475	3,033,439	3,037,914	5,758,107 02
Imported.	239,432	239,432	71,829 50	Imported.	157,325	157,325	47,197 46
3,765	3,785,217	3,788,982	6,792,837 58	4,475	3,190,764	3,195,239	5,805,304 48
33,250,637	.....	33,250,637	3,578 20	26,505,831	.....	26,505,831	2,193 90
Lbs.	Lbs.	Lbs.		Lbs.	Lbs.	Lbs.	
.....	85,699,102	85,699,102	1,286,093 13	.....	69,176,871	69,176,871	1,038,006 59
No.	No.	No.		No.	No.	No.	
95,465,362	87,928,975	183,394,337	1,100,388 99	86,933,261	59,138,355	146,071,616	876,715 17
539,580	628,020	1,167,600	3,502 80	950,370	228,500	1,178,870	3,536 61
4,426,000	4,839,405	9,265,405	27,796 22	4,007,449	2,995,325	7,002,774	21,008 32
100,430,942	93,396,400	193,827,342	1,131,688 01	91,891,080	62,362,180	154,253,260	901,260 10
259,712,200	2,671,750	262,383,950	794,794 35	256,602,560	1,461,500	258,064,060	780,673 93
.....	.....	.....	.....	22,700	.....	22,700	34 05
3,834,500	3,116,489	6,950,989	10,426 48	6,243,800	2,047,150	8,290,950	12,436 43
263,546,700	5,788,239	269,334,939	805,220 83	262,869,060	3,508,650	266,377,710	793,144 41
Lbs.	Lbs.	Lbs.		Lbs.	Lbs.	Lbs.	
1,096,486	8,144,033	9,240,519	2,310,130 15	1,001,615	6,435,634	7,437,249	1,859,312 51
3,142,100	30,366	3,172,466	158,623 40	2,253,229	8,148	2,261,377	113,068 83
1,157,181	748,561	1,905,742	95,287 28	1,001,434	473,275	1,474,709	73,735 55
162,844	.....	162,844	29,911 40	129,211	.....	129,211	23,915 35
.....	36,340	36,340	1,817 00	.....	15,992	15,992	799 60
5,558,611	8,959,300	14,517,911	3,400,990 06	4,385,489	6,933,049	11,318,538	2,863,976 25
.....	13,638,620	13,638,620	1,437,895 67	.....	.....	.....	1,198,122 48
.....	.....	.....	4,838,885 73	.....	.....	.....	4,062,098 73
.....	.....	.....	53,589 73	.....	.....	.....	40,059 47
.....	.....	.....	1,556 09	.....	.....	.....	1,907 00
.....	.....	.....	3,062 50	.....	.....	.....	2,437 50
.....	.....	.....	6,425 00	.....	.....	.....	4,718 75
.....	.....	.....	6,350 00	.....	.....	.....	4,875 00
.....	.....	.....	15,247 50	.....	.....	.....	11,497 52
.....	.....	.....	3,462 50	.....	.....	.....	3,030 13
.....	.....	.....	2,525 00	.....	.....	.....	1,762 50
.....	.....	.....	100 00	.....	.....	.....	87 50
.....	.....	.....	14,145,400 97	.....	.....	.....	11,879,189 17

per gallon was collected and afterwards refunded on the exportation of the fulminate.

W. J. GERALD,
Deputy Minister.

No. 11.—Amounts deposited monthly to the credit of the Honourable the Receiver General on account of Inland Revenues during the nine months ended March 31, 1907.

—	Ontario.	Quebec.	New Brunswick.	Nova Scotia.	Prince Edward Island.	Manitoba, Alberta and Saskatchewan.	British Columbia.	Yukon.	Totals.
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
July:—									
Excise	370,426 11	534,286 79	21,488 84	17,771 88	2,651 00	102,645 57	36,087 40	252 50	1,085,610 09
" Seizures	20 00	47 30	50 00						117 30
Hydraulic and other Rents	1 00								1 00
Minor Public Works	1 00								1 00
Weights and Measures	813 35	550 00		21 00					1,384 35
Gas Inspection	48 75								48 75
Law Stamps (Exchequer Court)	9 50								9 50
" (Yukon Territor'l Court)								140 75	140 75
" (Yukon Mining Court)									
Electric Light Fees	1,992 50	436 25	176 25	247 50	30 00	281 25	206 25	18 75	3,388 75
Fertilizers' Fees	1 00								1 00
Adulteration of Food	5 00	5 00				12 00			22 00
Methylated Spirits	2,842 01	951 54		104 11		97 72			3,995 38
Totals	376,160 22	536,276 88	21,715 09	18,144 49	2,681 00	103,036 54	36,293 65	412 00	1,094,719 87
August:—									
Excise	424,924 78	612,419 54	23,884 25	18,313 79	3,155 40	134,013 36	47,848 97	1,030 30	1,265,590 39
" Seizures		118 42	65 00	100 00					283 42
Minor Public Works	50 00								50 00
Weights and Measures	2,507 52	2,811 65	569 42	433 81	108 96	921 45	180 35	9 40	7,542 56
Gas Inspection	2,635 50	941 25	76 25	13 50		160 25	161 50		3,988 25
Electric Light Fees	1,118 25	534 25	15 00	68 75		386 55	167 00		2,289 80
Law Stamps (Supreme Court)	47 50								47 50
" (Exchequer Court)	42 75								42 75
" (Yukon Territor'l Court)								706 00	706 00
" (Yukon Mining Court)								64 50	64 50
Electric Light Fees	107 50	106 25		56 25		26 25	26 25		322 50
Adulteration of Food Fees	10 00					19 00			29 00
Methylated Spirits	3,003 91	2,025 84	89 96						5,119 71
Totals	434,447 71	618,957 20	24,699 88	18,986 10	3,264 36	135,526 86	48,384 07	1,810 20	1,286,076 38
September:—									
Excise	473,840 73	616,579 25	25,265 70	18,321 37	2,932 95	132,973 17	48,666 58	884 41	1,319,464 39
" Seizures	15 00	45 56				60 00			120 56

Weights and Measures	2,626 18	1,997 20	463 41	233 38	79 43	847 90	145 30	2 20	6,395 00
" " Seizures	6 00								6 00
Gas Inspection	2,453 50	822 50	106 00	18 00		188 50	63 25		3,651 75
Electric Light	1,091 75	451 50	83 50	63 00	2 25	321 50	338 00		2,351 50
Law Stamps (Supreme Court)	285 00								285 00
" (Exchequer Court)	437 00								437 00
" (Yukon Territ'l Court)								432 00	432 00
Electric Light Fees	68 75	75 00						7 50	151 25
Fertilizers' Fees							4 00		4 00
Adulteration of Food	2 00	5 00	15 00						22 00
Methylated Spirits	2,642 09	1,554 99					110 52		4,307 60
Casual Revenue		48 75							48 75
Totals	483,468 23	621,579 75	25,933 61	18,635 75	3,014 63	134,391 07	49,327 65	1,326 11	1,337,676 80
OCTOBER:—									
Excise	531,016 08	681,523 12	29,809 83	20,162 70	3,537 90	150,864 98	53,936 96	1,553 89	1,472,405 46
" Seizures	55 00	38 22							93 22
Weights and Measures	4,381 91	2,477 35	398 47	202 25	108 94	806 69	129 95	35 25	8,540 81
Gas Inspection	2,339 00	572 00	152 50	37 00	10 50	214 50	218 75		3,544 25
Electric Light	572 25	404 00	39 25	96 50	12 00	508 25	263 75		1,896 00
Law Stamps (Supreme Court)	95 00								95 00
" (Exchequer Court)	90 25								90 25
" (Yukon Territ'l Court)								618 85	618 85
" (Yukon Mining Court)								38 50	38 50
Electric Light Fees	26 25	3 75		7 50					37 50
Fertilizers' Fees	1 00								1 00
Adulteration of Food Fees	223 25	18 00		36 00	54 00				331 25
Methylated Spirits	2,722 88	1,844 98	132 02			81 65			4,780 93
Totals	541,522 87	686,881 42	30,532 07	20,541 95	3,723 34	152,475 17	54,549 41	2,246 49	1,492,173 02
NOVEMBER:—									
Excise	543,645 11	700,546 60	30,245 06	21,300 36	4,413 95	156,092 41	48,664 74	663 81	1,505,572 04
" Seizures	200 00	63 92							263 92
Weights and Measures	2,278 55	1,933 17	333 40	322 39	29 53	1,064 10	232 85	11 00	6,204 99
" " Seizures	20 00	8 50							28 50
Gas Inspection	2,683 25	1,113 75	67 75	18 00		250 00	69 25		4,202 00
" Seizures	5 00								5 00
Electric Light	1,300 00	1,037 50	29 25	125 50	7 50	511 00	344 25		3,355 00
Law Stamps (Supreme Court)	95 00								95 00
" (Exchequer Court)	100 70								100 70
" (Yukon Territ'l Court)								218 50	218 50
" (Yukon Mining Court)								50 50	50 50
Electric Light Fees	22 50	33 75	7 50				3 75		67 50
Fertilizers' Fees				9 00					9 00
Adulteration of Food Fees	18 00	18 00	9 00		9 00	63 00	99 00		216 00
Methylated Spirits	3,027 43	2,681 50	35 26	101 16					5,839 35
Totals	553,389 54	707,436 69	30,727 22	21,876 41	4,459 98	157,980 51	49,413 84	943 81	1,526,228 00

No. 14.—Amounts deposited monthly to the credit of the Honourable the Receiver General on account of Inland Revenues during the nine months ending March 31, 1907—*Concluded.*

	Ontario	Quebec.	New Brunswick.	Nova Scotia.	Prince Edward Island.	Manitoba, Alberta and Saskatchewan.	British Columbia.	Yukon.	Totals.
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
December:—									
Excise	536,234 83	769,498 85	27,131 13	25,055 15	3,091 50	165,379 76	55,341 98	173 82	1,581,907 02
" Seizures	10 00	115 79							125 79
Hydraulic and other Rents	453 00	1 00							454 00
Minor Public Works	51 00								51 00
Weights and Measures	2,589 36	1,077 12	131 00	248 25	21 74	542 20	135 10		4,744 77
" " Seizures		18 00							18 00
Gas Inspection	2,943 00	1,114 00	32 25	11 50		243 75	213 75		4,558 25
Seizures	20 00								20 00
Electric Light	1,094 50	479 00	100 25	83 50		608 25	382 50		2,748 00
Law Stamps (Supreme Court)	142 50								142 50
" (Exchequer Court)	242 25								242 25
" (Yukon Territor'l Court)								357 75	357 75
" (Yukon Mining Court)								37 50	37 50
Adulteration of Food	20 00	15 00							35 00
Penalties	36 00						14 00		50 00
Methylated Spirits	1,716 41	847 68	108 53			68 05			2,740 67
Totals	545,552 85	773,166 44	27,503 16	25,398 40	3,113 24	166,842 01	56,087 33	569 07	1,598,232 50
January:—									
Excise	125,242 78	492,361 81	21,800 12	22,480 64	2,866 50	128,303 31	41,538 25	631 56	1,135,224 97
" Seizures	25 00	80 00							105 00
Hydraulic and other Rents	200 00						13 00		213 00
Minor Public Works	75 00								75 00
Weights and Measures	4,017 45	924 35	129 28	67 22	8 90	454 95	218 50		5,820 65
" " Seizures		15 00							15 00
Gas Inspection	1,938 75	852 00	64 75	60 50	11 00	178 75	212 75		3,318 50
Electric Light	990 00	721 00	205 25	170 25	10 75	615 50	283 75		2,996 50
Law Stamps (Supreme Court)	332 50								332 50
" (Exchequer Court)	762 85								762 85
" (Yukon Territor'l Court)								132 75	132 75
" (Yukon Mining Court)								45 50	45 50
Electric Light Fees	9 38					3 75			13 13
Fertilizers' Fees	130 00	17 00		21 00					168 00
Adulteration of Food Fees		10 00							10 00

Methylated Spirits	2,715 89	1,378 79	28 89			73 39	234 00		4,430 96
Totals	436,439 60	496,359 95	22,228 29	22,799 61	2,897 15	129,629 65	42,500 25	809 81	1,153,664 31
FEBRUARY:									
Excise	419,557 40	545,855 66	21,680 84	15,718 34	2,608 10	112,800 59	45,368 67	462 15	1,164,051 75
" Seizures		318 83							318 83
Hydraulic and other Rents		1 00		16 00					17 00
Minor Public Works							1 00		1 00
Weights and Measures	2,822 19	1,410 73	48 82	16 95	14 85	581 85	152 80		5,048 19
Gas Inspection	1,556 50	980 75	3 00	4 50		177 25	45 00		2,767 00
Electric Light	1,135 00	617 25	202 75	74 25	2 75	368 75	321 50		2,722 25
Law Stamps (Supreme Court)	237 50								237 50
" (Exchequer Court)	272 65								272 65
" (Yukon Territor'l Court)								121 50	121 50
Electric Light Fees		7 50							7 50
Fertilizers' Fees	168 00			27 00					195 00
Adulteration of Food, Fees	15 00								15 00
Methylated Spirits	2,875 35	2,683 37	27 81	80 32					5,666 85
Totals	428,639 59	551,875 09	21,963 22	15,937 36	2,625 70	113,928 44	45,888 97	583 65	1,181,442 02
MARCH:									
Excise	491,753 21	636,500 74	21,191 08	18,662 68	3,161 23	149,173 82	72,695 49	2,737 08	1,398,875 33
" Seizures		13 28				100 00	55 25		168 53
Hydraulic and other Rents	2,335 00								2,335 00
Minor Public Works	1 00								1 00
Weights and Measures	4,974 52	2,715 90	201 77	102 77	25 01	965 00	228 10		9,213 07
" " Seizures	7 20	5 00							12 20
Gas Inspection	3,036 75	2,058 00	86 50	59 00	16 25	323 75	233 00		5,813 25
Electric Light	1,783 25	917 25	248 25	69 00	2 00	12 75	541 50		3,574 00
Law Stamps (Supreme Court)	95 00								95 00
" (Exchequer Court)	640 30								640 30
" (Yukon Territor'l Court)								337 00	337 00
" (Yukon Mining Court)								106 25	106 25
Electric Light Fees				30 00					30 00
Fertilizers' Fees	39 00	25 00	38 00	4 00			30 00		136 00
Adulteration of Food Fees	13 00								13 00
Methylated Spirits	3,118 99	2,203 73	59 34	101 29					5,783 35
Totals	508,097 22	644,438 90	24,824 94	19,028 74	3,204 49	150,575 32	73,783 34	3,180 33	1,427,133 28
Grand Totals	4,307,717 83	5,636,972 32	230,127 48	181,348 81	28,983 89	1,244,385 87	456,228 51	11,881 47	12,097,646 18

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

W. J. GERALD,
Deputy Minister

No. 15.—Comparative Monthly Statement for nine

	July.	August.
	$ cts.	$ cts.
Spirits { 1905-1906	437,776 93	497,895 83
Spirits { 1906-1907	524,338 51	571,785 69
Increase, 1906-1907	86,561 58	73,889 86
Decrease, 1906-1907		
Malt Liquor { 1905-1906	6,138 10	254 70
Malt Liquor { 1906-1907	4,487 90	755 20
Increase, 1906-1907		500 50
Decrease, 1906-1907	1,650 20	
Malt { 1905-1906	101,101 29	108,765 53
Malt { 1906-1907	121,443 86	129,869 68
Increase, 1906-1907	20,342 57	21,104 15
Decrease, 1906-1907		
Tobacco { 1905-1906	401,642 50	418,559 23
Tobacco { 1906-1907	457,963 14	482,617 79
Increase, 1906-1907	56,320 64	64,058 56
Decrease, 1906-1907		
Cigars { 1905-1906	108,871 98	105,812 74
Cigars { 1906-1907	113,748 48	110,091 81
Increase, 1906-1907	4,876 50	4,279 07
Decrease, 1906-1907		
Acetic Acid { 1905-1906	100 00	
Acetic Acid { 1906-1907	37 50	137 40
Increase, 1906-1907		137 40
Decrease, 1906-1907	62 50	
Manufactures in bond { 1905-1906	4,631 48	7,475 77
Manufactures in bond { 1906-1907	6,867 44	7,416 83
Increase, 1906-1907	2,235 96	
Decrease, 1906-1907		58 94
Seizures { 1905-1906	725 00	170 00
Seizures { 1906-1907	117 30	283 42
Increase, 1906-1907		113 42
Decrease, 1906-1907	607 70	
Other receipts { 1905-1906	9,335 13	2,309 07
Other receipts { 1906-1907	7,553 05	6,643 17
Increase, 1906-1907		4,334 10
Decrease, 1906-1907	1,782 08	
Total Revenue, 1905-1906	1,070,342 41	1,141,242 87
" " 1906-1907	1,236,557 18	1,309,600 99
Total Increase, 1906-1907	166,214 77	168,358 12
" Decrease, 1906-1907		

Inland Revenue Department,
Ottawa, May 31, 1907.

SESSIONAL PAPER No. 12

REVENUES.

months (1905-6 and 1906-7) ended March 31, 1907.

September.	October	November.	December.	January.	February.	March.	Totals.
$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
533,638 87	602,938 48	702,764 34	830,880 26	510,438 09	508,670 34	539,092 23	5,164,115 37
615,944 31	771,894 70	807,974 38	839,948 69	535,616 60	562,079 57	578,159 53	5,807,741 98
82,305 44	168,956 22	105,210 04	9,068 43	25,178 51	53,409 23	39,067 30	643,626 61
.....	.....	.....	.....	.....	.....	.....	.....
282 00	20 60	272 20	282 90	391 20	752 50	96 20	8,490 40
109 40	48 90	439 80	474 00	160 00	78 15	359 30	6,912 65
.....	28 30	167 60	191 10	.....	.....	263 10	1,150 60
172 60	.....	.....	.....	231 20	674 35	.....	2,728 35
95,949 22	96,129 65	103.773 28	101,71o 61	108,305 15	98,661 92	121,464 36	935,866 01
108,253 35	116,812 08	157,852 24	93,696 74	104,258 44	96,641 44	114,053 76	1,042,881 59
12,304 13	20,682 43	54,078 96	.....	.....	.....	.....	128,512 24
.....	.....	.....	8,018 87	4,046 71	2,020 48	7,410 60	21,496 66
408,142 92	414,506 03	436,867 66	347,718 32	373,944 72	368,675 63	410,127 84	3,580,184 85
437,336 85	508,298 39	516,158 45	377,346 91	418,427 41	432,158 48	434,821 44	4,065,128 86
29,193 93	93,792 36	79,290 79	29,628 59	44,482 69	63,482 85	24,693 60	484.944 01
.....	.....	.....	.....	.....	.....	.....	.....
96,824 36	95,704 67	100,961 94	89,828 32	79,240 05	76,757 19	90,029 22	844,030 47
97,948 52	111,470•49	113,359 87	107,589 08	85,924 32	82,009 57	90,615 48	912,757 62
1,124 16	15,765 82	12,397 93	17,760 76	6,684 27	5,252 38	586 26	68,727 15
.....	.....	.....	.....	.....	.....	.....	.....
1,249 80	.....	220 37	.....	36 18	40 70	9 04	1,656 09
481 07	539 65	426 08	.....	.....	190 91	131 89	1,944 50
.....	539 65	205 71	.....	.....	150 21	122 85	1,155 82
768 73	.....	.....	.....	36 18	.....	.....	867 41
8,140 50	7,529 37	3,831 89	1,963 13	2,030 83	1,561 77	3,060 58	40,225 32
7,145 36	6,046 36	5,663 16	2,074 21	1.499 00	1,734 75	3,374 86	41,821 97
.....	.....	1,831 27	111 08	.....	172 98	314 28	4,665 57
995 14	1,483 01	.....	.....	531 83	.....	.....	3,068 92
160 00	276 20	285 30	363 14	225 52	270 10	504 86	2,980 12
123 78	290 00	63 92	150 79	80 00	318 83	168 53	1,596 57
.....	13 80	.....	.....	.....	48 73	.....	175 95
36 22	.....	221 38	212 35	145 52	.....	336 33	1,559 50
2,552 08	6,046 66	4,525 76	3,174 94	4,651 61	4,055 42	3,451 35	41,102 02
4,884 46	4,692 31	5,599 72	4,425 81	6,315 96	3,142 76	6,109 84	49.367 08
1,332 38	.....	1,073 96	1.250 87	1,664 35	.....	2,658 49	12,314 15
.....	1,354 35	.....	.....	.....	912 66	.....	4,049 09
1,147,939 75	1,223,151 66	1,353,502 74	1,375,526 62	1,079,263 35	1,059,445 57	1,167,835 68	10,618,650 65
1,272,227 10	1,520,092 88	1,607,537 62	1,425,706 23	1,152,281 73	1,178,354 46	1,227,794 63	11,930,152 82
124,287 35	296,941 22	254,034 88	49,779 61	73,018 28	118,908 89	59,958 95	1,311,502 17
.....	.....	.....	.....	.....	.....	.....	.....

W. J. GERALD,
Deputy Minister.

No. 16.—Refunds of Revenue during the nine months ended March 31, 1907.

ticles.	To whom paid.	Date.	Divisions.	Under what Authority Refunded.	Amounts.	Totals.
		1906.			$ cts.	$ cts.
Spirits	Parke, Davis & Co.	July 25.	Windsor	Refunded under Revised Statutes, cap. 34, sec. 238	80 50	
	Montreal and Lake Superior Line	August 1.	Hamilton	" " 34 " 238	125 53	
	Parke, Davis & Co.	" 7.	Windsor	" " 34 " 238	1,438 27	
	" "	" 8.	"	" " 34 " 238	126 47	
	" "	" 11.	"	" " 34 " 238	148 73	
	" "	" 25.	"	" " 34 " 238	324 41	
	" "	Sept. 11.	"	" " 34 " 238	663 34	
	" "	" 25.	"	" " 34 " 238	515 76	
	" "	Oct. 3.	"	" " 34 " 238	774 82	
	Heney, J. J.	" 8.	Prescott	" " 34 " 238	14,378 75	
	Parke, Davis & Co.	" 11.	Windsor	" " 34 " 238	585 77	
	Heney, J. J.	" 19.	Prescott	" " 34 " 238	14,367 96	
	Parke, Davis & Co.	" 20.	Windsor	" " 34 " 238	213 13	
	Eastern Townships' Bank (for Howard G. M.)	" 23.	Sherbrooke	" " 34 " 238	4,092 39	
	Parke, Davis & Co.	" 27.	Windsor	" " 34 " 238	291 31	
	Heney, J. J.	" 31.	Prescott	" " 34 " 238	14,376 82	
	Parke, Davis & Co.	Nov. 7.	Windsor	" " 34 " 238	686 91	
	" "	" 13.	"	" " 34 " 238	282 15	
	" "	Dec. 7.	"	" " 34 " 238	492 16	
	" "	" 10.	"	" " 34 " 238	459 72	
	" "	" 22.	"	" " 34 " 238	209 73	
	" "	" 27.	"	" " 34 " 238	429 05	
		1907.				
	" "	Jan. 3.	"	" " 34 " 238	470 82	
	" "	" 8.	"	" " 34 " 238	253 73	
	" "	" 23.	"	" " 34 " 238	126 42	
	" "	" 29.	"	" " 34 " 238	104 21	
	" "	" 31.	"	" " 34 " 238	522 23	
	" "	Feb. 5.	"	" " 34 " 238	149 02	
	" "	" 18.	"	" " 34 " 238	705 60	
	" "	" 25.	"	" " 34 " 238	155 66	
	" "	March 5.	"	" " 34 " 238	399 91	
	" "	" 8.	"	" " 34 " 238	425 16	
	" "	" 16.	"	" " 34 " 238	224 60	
	" "	" 23.	"	" " 34 " 238	62 35	
	" "	April 2.	"	" " 34 " 238	329 28	

	Howard, G. M.	"	12	Sherbrooke	"	"	34	"	238	780 10	
	Parke, Davis & Co.	"	17	Windsor	"	"	34	"	238	656 39	
	" "	"	20	"	"	"	34	"	238	1,240 72	
	Heney, J. J.	"	27	Prescott	"	"	34	"	238	15,797 33	
		1906.									77,467 21
Malt	Bauer, A	Aug.	3	Guelph	"	"	34	"	238	131 25	
	McCarthy, D. J.	"	9	Prescott	"	"	29	"	78	429 23	
	Bowie, R.	"	9	"	"	"	29	"	78	311 07	
	Wiser, J. P. & Sons, Ltd.	"	9	"	"	"	29	"	78	222 75	
	Clarke, L. H.	"	11	Montreal	"	"	29	"	78	95 91	
	White, T. F.	"	14	St. Catharines	"	"	29	"	78	311 17	
	Tate, Robert	"	18	Victoria	"	"	34	"	238	275 01	
	Victoria Brewing Co., Ltd., The	"	18	"	"	"	34	"	238	345 38	
	Hartinger, F.	"	23	Vancouver	"	"	29	"	78	22 50	
	Nelson Brewing Co., Ltd., The	"	23	"	"	"	29	"	78	75 00	
	Fort Steel Brewing Co., The	"	23	"	"	"	29	"	78	60 00	
	Vancouver Breweries, Ltd., The	"	27	"	"	"	29	"	78	30 00	
	Fluhrer, John	"	27	"	"	"	29	"	78	50 25	
	Enterprise Brewing Co., The	"	27	"	"	"	29	"	78	48 10	
	Victoria Phœnix Brewing Co., Ltd., The	Sept.	8	Victoria	"	"	34	"	238	64 53	
	Durocher, P. H.	"	8	Ottawa	"	"	29	"	78	63 75	
	Henderson, Hugh	"	8	Vancouver	"	"	29	"	78	114 50	
	Nelson, Nels	"	8	"	"	"	29	"	78	151 12	
	Cranbrook Brewing and Malting Co.	"	8	"	"	"	29	"	78	22 27	
	Lardeau Brewing Co., The	"	8	"	"	"	29	"	78	7 82	
	Mueller, Julius	"	8	"	"	"	29	"	78	30 00	
	British Columbia Distillery Co., Ltd.	"	8	"	"	"	29	"	78	61 50	
	Sleeman Brewing and Malting Co., Ltd.	"	18	Guelph	"	"	29	"	78	250 64	
	McCarthy, D. J.	"	18	Prescott	"	"	29	"	78	41 66	
	O'Dwyer, P.	"	18	London	"	"	29	"	78	30 00	
	Victoria Phœnix Brewing Co., The	"	21	Victoria	"	"	34	"	238	144 37	
	New York Brewing Co.	"	21	Vancouver	"	"	29	"	78	5 25	
	Carling, T. H.	Oct.	3	London	"	"	34	"	238	15 99	
	Wilson, D. H.	"	5	Toronto	"	"	34	"	178	494 08	
	Wilson, Litle, Badgerow & Co., The	"	25	"	"	"	34	"	178	209 30	
	Carling, T. H.	Dec.	7	London	"	"	34	"	238	18 59	
	Vancouver Breweries, Ltd., The	"	14	Vancouver	"		34	"	238	94 50	
	Silver Spring Brewery, Ltd.	"	14	Sherbrooke	"		34	"	238	73 50	

No. 16.—Refunds of Revenue—*Continued.*

Excise—*Continued.*

Articles.	To whom paid.	Date.	Divisions.	Under what Authority Refunded.	Amounts.	Totals.
		1907.			$ cts.	$ cts.
Malt—*Con.*	Wilson, Litle, Badgerow & Co., The	Jan. 12.	Toronto	Refunded under Revised Statutes cap. 34, sec. 178	337 14	
	Vancouver Breweries, Ltd., The	" 18.	Vancouver	" " 34 " 238	94 50	
	McCarthy, D. J. (Estate of)	" 31.	Prescott	" " 29 " 78	15 56	
	" "	" 31.	"	" " 34 " 238	112 50	
	Dawes & Co	Feb. 14.	Montreal	" " 29 " 78	690 84	
	Labatt, John	March 9.	London	" " 34 " 178	13 32	
	McCarthy, T. C.	April 3.	Prescott	" " 34 " 238	105 81	
	Vancouver Breweries, Ltd., The	" 23.	Vancouver	" " 34 " 238	99 00	
	Roy, J. A.	" 29.	Belleville	" " 29 " 78	110 42	
	Corby, H., Distillery Co.	" 29.	"	" " 29 " 78	269 86	
	Westbrook & Hacker	" 29.	Brantford	" " 29 " 78	110 39	
	Otterbein, C.	" 29.	"	" " 29 " 78	68 62	
	Bixel, A.	" 29.	"	" " 29 " 78	285 98	
	Sleeman Brewing and Malting Co., Ltd.	" 29.	Guelph	" " 29 " 78	398 28	
	Rau, Mary	" 29.	"	" " 29 " 78	129 00	
	Sleeman, Geo. A.	" 29.	"	" " 29 " 78	352 65	
	Bauer, A.	" 29.	"	" " 29 " 78	1,208 70	
	Seagram, J. E.	" 29.	"	" " 29 " 78	321 20	
	Andrich, E. C.	" 29.	"	" " 29 " 78	144 30	
	Bernhardt, V. P.	" 29.	"	" " 29 " 78	165 32	
	Holliday, W. R.	" 29.	"	" " 29 " 78	240 35	
	Huether, C. N.	" 29.	"	" " 29 " 78	633 75	
	Grant's Spring Brewery Co. Ltd.	" 29.	Hamilton	" " 29 " 78	498 70	
	Canada Malting Co.	" 29.	"	" " 29 " 78	1,812 10	
	Fisher, John	" 29.	Kingston	" " 29 " 78	164 32	
	Stevensons, R.	" 29.	"	" " 29 " 78	104 70	
	Hamilton, Joseph	" 29.	London	" " 29 " 78	40 37	
	Union Brewing Co., Ltd.	" 29.	"	" " 29 " 78	58 05	
	O'Dwyer, P.	" 29.	"	" " 29 " 78	147 00	
	Labatt, John	" 29.	"	" " 29 " 78	1,257 84	
	Eaton, C.	" 29.	Owen Sound	" " 29 " 78	120 50	
	Heisz, L.	" 29.	"	" " 29 " 78	90 73	
	Huether, Wm	" 29.	"	" " 29 " 78	148 58	
	Superior Brewing & Malting Co., Ltd.	" 29.	Port Arthur	" " 29 " 78	154 47	
	Wiser, J. P. & Co., Ltd	" 30.	Prescott	" " 29 " 78	127 75	
	Bowie & Co., Brewery Ltd.	" 30.	"	" " 29 " 78	207 64	

Taylor, H. J	"	30	St. Catharines	"	"	29	"	78	506	65		
White, T. F	"	30	"	"	"	29	"	78	261	90		
Devlin, F	"	30	Stratford	"	"	29	"	78	67	26		
Watson, John	"	30	"	"	"	29	"	78	155	62		
Canada Malting Co., Ltd	"	30	"	"	"	29	"	78	827	29		
Schwan, Wm	"	30	Owen Sound	"	"	29	"	78	173	70		
Farquharson & Granger	"	30	"	"	"	29	"	78	71	77		
											17,205	42
	1906											
Riley, D. J	Aug.	1	Charlottetown	"	"	34	"	238	396	00		
Bollard, A	"	7	Toronto	"	"	34	"	238	106	70		
Blumenstiel, Isaac	"	7	Hamilton	"	"	34	"	238	192	40		
Donohue, Dennis	"	7	"	"	"	34	"	238	88	90		
Rosin, Louis	"	7	Toronto	"	"	34	"	238	119	70		
American Tobacco Co. of Canada, Ltd., The	"	7	Montreal	"	"	34	"	238	79	50		
Flynn, F. L	"	8	Hamilton	"	"	34	"	238	64	70		
Hirsch, Jacob	"	8	Montreal	"	"	34	"	238	274	00		
Grothé, L. O	"	11	"	"	"	34	"	238	545	30		
Milligan, Geo	"	11	Toronto	"	"	34	"	238	645	00		
Walsh, Arthur	"	11	Montreal	"	"	34	"	270	130	00		
Kilbourn, W. P	"	11	Winnipeg	"	"	34	"	238	238	90		
Bollard, A	"	15	Toronto	"	"	34	"	259	0	97		
"	"	15	"	"	"	34	"	259	0	87		
Henry, James	"	15	Montreal	"	"	34	"	270	20	00		
George Tuckett & Son Co	"	18	Hamilton	"	"	34	"	259	168	03		
Payne, J. B	"	20	Sherbrooke	"	"	34	"	238	357	30		
Solomen, E	"	20	Montreal	"	"	34	"	259	10	77		
American Tobacco Co. of Canada, Ltd., The	"	20	"	"	"	34	"	259	2,253	35		
Fortier, J. M., Ltd	"	20	"	"	"	34	"	259	31	20		
Tobin, John & Co	"	20	Halifax	"	"	34	"	270	10	77		
McKenna, A	"	24	Pictou	"	"	34	"	238	101	44		
Macdonald, Sir W. C	Sept.	8	Montreal	"	"	34	"	238	93	50		
McKenna, A	"	8	Pictou	"	"	34	"	238	8	32		
Wentzell & Co., H. W	"	8	Halifax	"	"	34	"	238	28	94		
Donnelly, James	"	8	London	"	"	34	"	238	32	30		
Dyer, W. R	"	8	"	"	"	34	"	238	41	90		
McHugh, John	"	8	St. Catharines	"	"	34	"	238	28	70		
Spilling, M. E	"	8	Toronto	"	"	34	"	238	95	60		
Barry, H. D	"	8	Quebec	"	"	34	"	238	303	80		
Goldstein, B	"	11	Montreal	"	"	34	"	238	17	60		
Bauld Bros. & Co	"	21	Halifax	"	"	34	"	238	201	20		
McKenna, A	"	21	Pictou	"	"	34	"	270	13	80		
"	"	21	"	"	"	29	"	78	3	90		
"	"	21	"	"	"	34	"	259	24	02		
Bollard, A	"	21	Toronto	"	"	34	"	259	1	02		
George Tuckett & Son Co., Ltd., The	"	21	Hamilton	"	"	34	"	259	225	75		

EXCISE—*Continued.*

Articles.	To whom paid.	Date.	Divisions.	Under what Authority Refunded,	Amounts.	Totals.
		1906.			$ cts.	$ cts.
Tobacco—*Con.*	Rock City Tobacco Co., Ltd., The	Sept. 21.	Quebec	Refunded under Revised Statutes, cap. 34, sec. 259	16 00	
	Solomon, E	" 21.	Montreal	" " 34 " 259	1 76	
	Fortier, J. M., Ltd	" 21.	"	" " 34 " 259	144 63	
	American Tobacco Co. of Canada, Ltd., The	" 21.	"	" " 34 " 238	2,096 13	
	" "	" 21.	"	" " 34 " 238	613 20	
	Grothé, L. O	" 21.	"	" " 34 " 233	845 10	
	Fortier, J. M., Ltd	" 21.	"	" " 34 " 238	1,150 60	
	Tuckett Cigar Co., Ltd., The	" 21.	London	" " 34 " 238	131 90	
	Fortier, J. M., Ltd	" 29.	Montreal	" " 34 " 238	5 80	
	McKenna, A	" 29.	Pictou	" " 34 " 238	43 36	
	Wilson, Andrew	" 29.	Toronto	" " 34 " 238	411 20	
	Tuckett Cigar Co., Ltd., The	Oct. 11.	Hamilton	" " 34 " 238	162 50	
	" "	" 11.	"	" " 34 " 238	229 70	
	" "	" 11.	London	" " 34 " 238	109 10	
	Oberndorffer, Simon	" 11.	Kingston	" " 34 " 238	53 10	
	Jacob, H. & Co	" 11.	Montreal	" " 34 " 238	254 60	
	Tuckett Cigar Co., Ltd., The	" 11.	"	" " 34 " 238	474 20	
	Harkness, Thomas	" 11.	"	" " 34 " 238	29 62	
	McKenna, A	" 11.	Picton	" " 34 " 238	53 60	
	Tobin & Co	" 11.	Halifax	" " 34 " 238	59 46	
	Bollard, A	" 11.	Toronto	" " 34 " 259	0 85	
	F. X. Dussault Tobacco Factory, The	" 19.	Quebec	" " 34 " 259	18 95	
	Goldstein, B	" 19.	Montreal	" " 34 " 259	16 79	
	Henry, James	" 19.	"	" " 34 " 259	12 86	
	Morris, P. & Co., Ltd	" 19.	"	" " 34 " 259	10 16	
	Walsh, Arthur	" 19.	"	" " 34 " 259	16 55	
	Oriental Tobacco Co., The	" 19.	"	" " 34 " 259	21 22	
	Ateshian, C	" 19.	"	" " 34 " 259	0 60	
	Solomon, E	" 19.	"	" " 34 " 259	10 73	
	Fortier, J. M., Ltd	" 19.	"	" " 34 " 259	49 96	
	American Tobacco Co. of Canada, Ltd., The	" 19.	"	" " 34 " 259	1,833 16	

Geo. E. Tuckett & Son Co., Ltd., The	"	19..	Hamilton	"	"	29	"	78				181	51
Fair, T. J. & Co., Ltd.	"	20..	Brantford	"	"	31	"	238				152	20
McGowan, C. A.	"	20..	Kingston	"	"	31	"	238				132	40
Milligan, Geo.	"	20..	Toronto	"	"	31	"	238				755	80
Shebrooke Cigar Co., The	"	20..	Sherbrooke	"	"	31	"	238				237	60
Prozeski, Paul	"	20..	Winnipeg	"	"	31	"	238				241	96
Geo. E. Tuckett & Son, Co., Ltd., The	"	27..	Hamilton	"	"	31	"	238				1,170	14
McKenna, A.	"	27..	Picton	"	"	31	"	238				49	28
Rock City Tobacco Co., Ltd., The	Nov.	5..	Quebec	"	"	31	"	259				20	58
Macdonald, Sir W. C.	"	5..	Montreal	"	"	31	"	238				224	40
American Tobacco Co., of Canada, Ltd., The	"	5..	"	"	"	34	"	238				304	70
Fortier, J. M., Ltd	"	5..	"	"	"	34	"	238				1,873	50
Hirsch, Jacob	"	5..	"	"	"	34	"	238				212	40
Breyer, A. H.	"	5..	London	"	"	34	"	238				161	20
McDonald, R. D.	"	5..	"	"	"	34	"	238				561	70
Bollard, A.	"	19..	Toronto	"	"	31	"	259				1	85
Geo. E. Tuckett & Son Co., Ltd., The	"	19..	Hamilton	"	"	34	"	259				223	94
Solomon, E.	"	19..	Montreal	"	"	34	"	259				12	96
Fortier, J. M., Ltd	"	19..	"	"	"	34	"	259				45	39
American Tobacco Co. of Canada, Ltd., The	"	19..	"	"	"	34	"	259				2,330	61
Dyer, W. R.	"	19..	London	"	"	34	"	238				46	36
Warttig, B. J.	"	20..	"	"	"	34	"	238				53	40
Dyer, Jno. J.	"	20..	"	"	"	34	"	238				87	00
Smith, Jos.	"	20..	"	"	"	34	"	238				90	00
Kelley, Geo.	"	20..	"	"	"	31	"	238				106	90
Nolan, J. P.	"	20..	"	"	"	34	"	238				108	80
Tuckett Cigar Co., Ltd., The	"	20..	"	"	"	34	"	238				128	70
McNee, John	"	20..	"	"	"	34	"	238				295	10
Wilson, Andrew	"	20..	Toronto	"	"	34	"	238				362	70
McKenna, A.	"	20..	Picton	"	"	34	"	238				46	72
LeMesurier, John	"	27..	Quebec	"	"	34	"	238				10	93
Tobin, John & Co.	"	27..	Halifax	"	"	34	"	259				10	77
Geo. E. Tuckett & Son Co., Ltd., The	"	27..	Hamilton	"	"	34	"	238				965	93
Tuckett Cigar Co., Ltd., The	"	27..	"	"	"	34	"	238				283	90
"	"	27..	Montreal	"	"	34	"	238				298	10
Grothé, L. O.	"	27..	"	"	"	34	"	238				881	50
American Tobacco Co. of Canada, Ltd., The	Dec.	6..	"	"	"	34	"	238				779	30
Macdonald, Sir W. C.	"	6..	"	"	"	34	"	238				93	50
"	"	10..	"	"	"	31	"	238				185	90
Hirsch, Jacob	"	10..	"	"	"	34	"	238				161	30
Harkness, Thomas	"	10..	"	"	"	31	"	238				244	60

EXCISE—*Continued.*

Articles.	To whom paid.	Date.	Divisions.	Under what Authority Refunded.	Amounts.	Totals.
		1906.			$ cts.	$ cts.
Tobacco—*Con.*	Fortier, J. M. Ltd	Dec. 10.	Montreal	Refunded under Revised Statutes, cap. 34, sec. 238	651 80	
	Grothé, L. O	" 10.	"	" " 34 " 238	884 80	
	Webster, W. R	" 10.	"	" " 34 " 238	397 40	
	Blumensteil, Isaac	" 10.	Hamilton	" " 34 " 238	177 90	
	Tuckett Cigar Co., Ltd., The	" 14.	"	" " 34 " 238	24 36	
	Brener, A. H	" 14.	London	" " 34 " 238	20 70	
	Walsh, Arthur	" 22.	Montreal	" " 34 " 270	250 00	
	Geo. E. Tuckett & Son Co., Ltd., The	" 22.	Hamilton	" " 34 " 238	1,266 22	
	McKenna, A	" 22.	Pictou	" " 34 " 238	50 08	
	Bollard, A	" 24.	Toronto	" " 34 " 259	1 17	
	F. X. Dussault Tobacco Factory, The	" 24.	Quebec	" " 34 " 259	10 20	
	Rock City Tobacco Co., The	" 24.	"	" " 34 " 259	0 78	
	Geo. E. Tuckett & Son Co., Ltd., The	" 24.	Hamilton	" " 34 " 259	191 06	
	Solomon, E	" 24.	Montreal	" " 34 " 259	14 01	
	Fortier, J. M., Ltd	" 24.	"	" " 34 " 259	38 98	
	American Tobacco Co. of Canada, Ltd., The	" 24.	"	" " 34 " 259	2,167 99	
	American Tobacco Co. of Canada, Ltd., The	" 24.	"	" " 34 " 259	183 00	
	Langton, F. W	" 24.	Guelph	" 34 " 259	94 60	
	Ramsay, P. B. H	" 24.	Winnipeg	" " 34 " 259	260 50	
	Standard Cigarette and Tobacco Co., The	" 28.	Montreal	" " 34 " 259	1 79	
	Payne, J. Bruce	" 28.	Sherbrooke	" " 34 " 238	254 60	
	Gignac, R. F	" 29.	Windsor	" " 34 " 238	11 10	
		1907.				
	Tuckett Cigar Co., Ltd., The	Jan. 3.	London	" " 34 " 238	174 80	
	Milligan, Geo	" 3.	Toronto	" " 34 " 238	692 60	
	Tobin, John & Co	" 8.	Halifax	" " 34 " 238	10 77	
	Geo. E. Tuckett & Son Co., Ltd., The	" 8.	Hamilton	" " 34 " 238	39 21	

Fortier, J. M., Ltd.	"	8..	Montreal	"	"	34	"	238 ..	70	04
Tuckett Cigar Co., Ltd., The	"	8..	"	"	"	34	"	238	309	30
Jacob, H. & Co	"	8..	"	"	"	34	"	238	526	20
Bryan, Geo. F	"	8..	Winnipeg	"	"	34	"	238	231	20
Tuckett Cigar Co., Ltd., The	"	12..	Hamilton	"	"	34	"	238	224	10
Ward, W	"	12	London	"	"	34	"	238	153	70
Wilson, Andrew	"	12..	Toronto	"	"	34	"	238	331	60
W. B. Reid Co., Ltd., The	"	12..	"	"	"	34	"	238	264	50
Hart, A. S	"	12..	St. John	"	"	34	"	238	160	20
Isaacs, A	"	12..	"	"	"	34	"	238	310	90
Kurtz & Co	"	12..	Vancouver	"	"	34	"	238	193	90
Youngheart, Ed	"	12..	Montreal	"	"	34	"	238	237	40
Nolan, J. F	"	21..	London	"	"	34	"	238	20	10
Bollard, A	"	21..	Toronto	"	"	34	"	259	1	07
McAlpin, W. A	"	21..	"	"	"	34	"	259	2	12
Henry, James	"	21	Montreal	"	"	34	"	259	8	71
Ateshian, C	"	21..	"	"	"	34	"	259	5	34
Morris, P. & Co., Ltd.	"	21..	"	"	"	34	"	259	16	43
Oriental Tobacco Co.	"	21..	"	"	"	34	"	259	17	48
Walsh, Arthur	"	21..	"	"	"	34	"	259	20	79
Goldstein, B	"	21..	"	"	"	31	"	259	21	68
Solomon, E	"	21..	"	"	"	34	"	259	12	49
Fortier, J. M., Ltd	"	21..	"	"	"	34	"	259	29	98
American Tobacco Co. of Canada, Ltd., The	"	21..	"	"	"	34	"	259	1,729	34
Geo. E. Tuckett & Son Co., Ltd., The	"	21..	"	"	"	29	"	78	4	00
Geo. E. Tuckett & Son Co., Ltd., The	"	21..	"	"	"	34	"	259	131	08
Geo. E. Tuckett & Son Co., Ltd., The	"	21..	"	"	"	34	"	238	1,185	20
Firstbrook, Joseph	"	23..	London	"	"	34	"	238	141	30
Grothé, L. O	"	23..	Montreal	"	"	34	"	238	870	30
Fortier, J. M., Ltd	"	23..	"	"	"	34	"	238	117	11
American Tobacco Co. of Canada, Ltd., The	"	28..	"	"	"	34	"	238	733	90
Fortier, J. M., Ltd	"	28.	"	"	"	34	"	238	189	20
Kelly, Geo	"	28..	London	"	"	34	"	238	125	30
Wilson, Andrew	"	28..	Toronto	"	"	34	"	238	271	50
Ryall, C. A	"	28..	Windsor	"	"	34	"	238	51	10
Atkins, Wm	"	29..	London	"	"	34	"	238	53	40
Rock City Tobacco Co., Ltd., The	"	30..	Quebec	"	"	34	"	259	1	50
Macdonald, Sir W. C	"	31..	Montreal	"	"	34	"	238	156	20
St. Louis, Clovis	"	31..	"	"	"	34	"	238	13	20
Williams, J. E	Feb.	5..	London	"	"	34	"	238	41	10
Schlueter, W. J.	"	5..	Guelph	"	"	34	"	238	58	70
Winterhalt, Joseph	"	5..	"	"	"	34	"	238	95	40
Fair, T. C. & Co., Ltd.	"	5..	Brantford	"	"	34	"	238	220	70
Harkness, Thomas	"	5..	Montreal	"	"	34	"	238	140	10

EXCISE—*Continued.*

Articles.	To whom paid.	Date.	Divisions.	Under what Authority Refunded.	Amounts.	Totals.
		1907.			$ cts.	$ cts.
Tobacco—*Con.*	Tuckett Cigar Co., Ltd., The	Feb. 18..	Hamilton	Refunded under Revised Statutes, cap. 34 sec. 238	201 70	
	" "	" 18..	London	" " 34 " 238	204 00	
	Kelly, Geo	" 18..	"	" " 34 " 238	40 90	
	Dyer, W. R.	" 18..	"	" " 34 " 238	65 50	
	Manuess, S. R	" 18..	"	" " 34 " 238	65 90	
	Smith, Jos	" 18..	"	" " 34 " 238	80 10	
	Dyer, Jno. J	" 18..	"	" " 34 " 238	108 20	
	Brener, A. H	" 18..	"	" " 34 " 238	118 00	
	McNee, John	" 18..	"	" " 34 " 238	298 30	
	McDonald, R. D	" 18..	"	" " 34 " 238	390 50	
	Milligan, Geo	" 18..	Toronto	" " 34 " 238	627 70	
	Fortier, J. M., Ltd	" 18..	Montreal	" " 34 " 238	389 90	
	Jacobs, H. & Co	" 18..	"	" " 34 " 238	428 10	
	Macdonald, Sir W. C	" 18..	"	" " 34 " 238	112 20	
	Hobrecker, A.	" 18..	Halifax	" " 34 " 238	9 20	
	Bollard, A	" 25..	Toronto	" " 34 " 259	1 17	
	McAlpin, A	" 25..	"	" " 34 " 259	2 87	
	Lemesurier, John	" 25..	Quebec	" " 34 " 259	5 59	
	Geo. E. Tuckett & Son Co., Ltd., The	" 25..	Hamilton	" " 34 " 259	139 80	
	Fortier, J. M., Ltd	" 25..	Montreal	" " 34 " 259	10 00	
	Solomon, E	" 25..	"	" " 34 " 259	14 76	
	Goldstein, B	" 25..	"	" " 34 " 259	30 25	
	American Tobacco Co. of Canada, Ltd., The	" 25..	"	" " 34 " 259	1,750 75	
	Harkness, Thos	" 25..	"	" " 34 " 238	6 00	
	Goldstein, B	" 25..	"	" " 34 " 238	21 89	
	Grothé, L. O	" 25..	"	" " 34 " 238	266 90	
	Fortier, J. M., Ltd	" 25..	"	" " 34 " 238	908 20	
	Tuckett Cigar Co. Ltd., The	" 25..	Hamilton	" " 34 " 238	193 30	
	Sherbrooke Cigar Co., The	" 25..	Sherbrooke	" " 34 " 238	234 00	
	Nolan, J. F.	" 25..	London	" " 34 " 238	96 30	
	Wilson, Andrew	" 25..	Toronto	" " 34 " 238	400 50	
	McAlpin, W. A.	" 25..	"	" " 34 " 238	32 37	
	Walsh, Arthur	" 27..	Montreal	" " 34 " 238	110 00	
	Rock City Tobacco Co., Ltd., The	Mar. 2..	Quebec	" " 34 " 259	2 50	

Blumensteil, I.	"	2..	Hamilton.	"	"	34	"	238.	158	00
Tobin, John & Co.	"	15..	Halifax.	"	"	34	"	238.	21	54
American Tobacco Co. of Canada, Ltd., The	"	15..	Montreal	"	"	34	"	238.	751	10
Hirsch, Jacob.	"	15.	"	"	"	34	"	238.	232	00
Tuckett Cigar Co., Ltd., The.	"	15 .	"	"	"	34	"	238	446	80
Grothé, L. O	"	15..	"	"	"	34	"	238	614	30
Fortier, J. M., Ltd.	"	15..	"	"	"	34	"	238.	1,212	30
Halloran, M. K.	"	15..	Brantford	"	"	34	"	228	50	60
Holtze, Gustave	"	15..	Guelph.	"	"	34	"	238	50	20
Taylor, John	"	15..	Toronto	"	"	34	"	238.	153	80
Bollard, A	"	20..	"	"	"	34	"	259	0	90
McAlpin, W. A.	"	20..	"	"	"	34	"	259.	1	87
Rock City Tobacco Co., Ltd., The	"	20..	Quebec.	"	"	34	"	259	1	80
Solomon, E.	"	20..	Montreal	"	"	34	"	259	15	34
American Tobacco Co. of Canada, Ltd., The	"	20 .	"	"	"	34	"	238.	1,985	80
Geo. E. Tuckett & Son Co. Ltd., The	"	20..	Hamilton.	"	"	34	"	238.	187	76
Henry, James.	April	2..	Montreal	"	"	34	"	270.	20	00
American Tobacco Co. of Canada, Ltd., The.	"	2..	"	"	"	34	"	238 .	976	00
Tuckett Cigar Co., Ltd., The.	"	2..	"	"	"	34	"	238.	342	60
Fortier, J. M., Ltd.	"	2..	"	"	"	34	"	238 .	494	50
Webster, W. R.	"	2..	Sherbrooke.	"	"	34	"	238	299	30
Winnipeg Cigar Co	"	2..	Winnipeg	"	"	34	"	238.	172	30
Bollard, A.	"	3..	Toronto	"	"	34	"	270.	9	75
Tobin, John & Co	"	17..	Halifax.	"	"	34	"	238	10	89
Gardner, H. B	"	17..	Brantford.	"	"	34	"	238.	92	20
Fair, T. J. & Co., Ltd.	"	17..	"	"	"	34	"	238	147	00
Despond, C. R	"	17..	Guelph	"	"	34	"	238.	47	60
Tuckett Cigar Co., Ltd., The	"	17..	Hamilton	"	"	34	"	238.	434	30
" "	"	17..	Montreal.	"	"	34	"	238	293	60
" "	"	17..	London	"	"	34	"	238	281	20
Firstbrook, Joseph	"	17..	"	"	"	34	"	238	280	40
Kelley, G.	"	17 .	"	"	"	34	"	238	206	50
Dyer, W. R	"	17..	"	"	"	34	"	238.	40	60
Donnelly, James.	"	17..	"	"	"	34	"	238	42	70
Nolan, J. F.	"	17..	"	"	"	34	"	238.	85	70
Ward, Wm.	"	17..	"	"	"	34	"	238.	109	90
Dyer, John J.	"	17..	"	"	"	34	"	238.	120	10
Taylor, John.	"	17..	Toronto	"	"	34	"	238.	126	00
Reid, W. B. Co., Ltd., The.	"	17..	"	"	"	34	"	238.	246	70
Wilson, Andrew	"	17..	"	"	"	34	"	238.	459	30
Milligan, Geo.	"	17..	"	"	"	34	"	238.	782	60
Nicholson, D	"	19..	Charlottetown	"	"	34	"	270	30	70
"	"	19..	"	"	"	34	"	259.	9	56

EXCISE—*Continued.*

Articles.	To whom paid.	Date.	Divisions.	Under what Authority Refunded.	Amounts.	Totals.
		1907.			$ cts.	$ cts.
Tobacco—*Con.*	Bollard, A	April 19..	Toronto	Refunded under Revised Statutes, cap. 34, sec. 259	0 66	
	McAlpin, W. A.	" 19..	"	" " 34 " 259	0 75	
	Dussault F. X. Tobacco Factory, The	" 19..	Quebec	" " 34 " 259	19 42 11 75	
	Henry, James	" 20..	Montreal	" " 34 " 259	1 55	
	London & Cormack	" 20..	"	" " 34 " 259	2 04	
	Ateshian, Carnig	" 20..	"	" " 34 " 259	19 48	
	Walsh, A	" 20..	"	" " 34 " 259	21 73	
	Morris & Co., Ltd., P.	" 20..	"	" " 34 " 259	15 17	
	Solomon, E.	" 20..	"	" " 34 " 259	19 23	
	Oriental Tobacco Co., The	" 20..	"	" " 34 " 259	22 84	
	Fortier, J. M., Ltd	" 20..	"	" " 34 " 259	29 57	
	Goldstein, B.	" 20..	"	" " 34 " 259	1,696 91	
	American Tobacco Co. of Canada, Ltd., The	" 20..	"	" " 34 " 259	217 01	
	Geo. E. Tuckett & Son Co., Ltd., The	" 20..	Hamilton	" " 34 " 259	1 50	
	Geo. E. Tuckett & Son Co., Ltd., The	" 20..	"	" " 29 " 78	3 00	
	McDonald, R. D	" 20..	London	" " 29 " 78	233 90	
	Macdonald, Sir Wm C.	" 20..	Montreal	" " 29 " 78	169 00	
	Walsh, A.	" 24..	"	" " 29 " 78	1,058 70	
	Fortier, J. M., Ltd	" 24..	"	" " 34 " 238	353 60	
	McGowan, Geo. A.	" 24.	Kingston	" " 34 " 238	165 40	
	Oberndorffer S.	" 24..	"	" " 34 " 238	63 70	
	Bollard, A	" 24..	Toronto	" " 34 " 238	194 60	
	Payne, J. B.	" 25.	Sherbrooke	" " 34 " 238	3 20	
	Fair, T. J. & Co.	" 30..	Brantford	" " 34 " 238		70,974 40
		1906.				
Officer's salary	Allen, Solomon	Sept. 18..	Brantford	" " 34 " 238		300 00
				Less refunded to Department by P. O. Dwyer on account of Malt		165,947 03 1 50
				Total for Excise		165,945 53
Weights and Measures	Harris, R. C.	Aug. 1..	Toronto	Refunded under Revised Statutes, cap. 34, sec. 238	1 83	

	Kemp Manufacturing Co...	Oct.	11..	"	"	"	34	" 238	45 00	
Electric Light Insp.	Canadian Westinghouse Co., The	Dec.	14..	Halifax	"	"	34	" 238		46 83 / 11 00
Electric Light Registration Fees	The City of Wetaskiwin...	Oct.	16..	Calgary	"	"	34	" 238	11 25	
		1907.								
	The Corporation of the City of Windsor	Mar.	7..	Windsor	"	"	34	" 238	5 63	16 88
						Grand total of refunds				166,020 24

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

W. J. GERALD,
Deputy Minister.

No. 17.—DEPARTMENTAL EXPENDITURES, FOR NINE MONTHS ENDED MARCH 31, 1907.

(For Details, see Appendix B.)

Due by sundry persons, July 1, 1906.	Disbursed by the Receiver General.	Deductions for			Totals.	——	Salaries.	Contingencies.	Due by sundry persons, March 31, 1907.	Totals.
		Superannuation.	Insurance.	Retirement.						
$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.		$ cts.	$ cts.	$ cts.	$ cts.
.....	5,250 00	.....	.....	.....	5,250 00	.... Minister of Inland Revenue.	5,250 00	.....	....	5,250 00
.....	35,167 30	444 36	87 30	516 05	36,215 01	... Departmental officers.	36,215 01	.....	. .....	36,215 01
.....	310 83	....	..	....	310 83	. .. Subscription to newspapers.....	.....	310 83	.....	310 83
... .	1,117 17	.....	.....	. .....	1,117 17	.....Extra clerks, &c	....	1,117 17	.....	1,117 11
..... .	727 11	.. ..	.....	....	727 11	.....Telegraph companies and telephones.....	.....	727 11	.....	727 11
....	1,239 67	....	. ...	. ... .	1,239 67	..... Stationery.....	.....	1,239 67	.....	1,239 67
.....	1,098 21	.....	.	....	1,098 21	. .. Printing and lithographing...	....	1,098 21	.....	1,098 21
....	44 61	.....	.....	.....	44 61	. ...Postage.....	....	44 61	.....	44 61
16 66	621 60	... ..	....	.....	638 26	.....Sundry persons.	.....	621 60	16 66	638 26
16 66	45,576 50	444 36	87 30	516 05	46,640 87	.....Totals	41,465 01	5,159 20	16 66	46,640 87

Inland Revenue Department,
Ottawa, May 31, 1907.

W. J. GERALD,
Deputy Minister.

WEIGHTS AND MEASURES, GAS, ELECTRIC LIGHT AND LAW STAMPS.

No. 18.—Statement showing amount of Revenue accrued during the nine months ended March 31, 1907.

DR.

	Weights and Measures Stamps.	Gas Stamps.	Electric Light Stamps.	Law Stamps.				Totals.
				Supreme Court.	Exchequer Court.	Yukon Territorial Court.	Yukon Mining Court.	
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
To amount of stamps destroyed or returned by distributors	1,113 80	8 50	.....	.....	.....	.....	.....	1,122 30
To commission allowed	.....	.....	.....	70 00	136 75	.....	.....	206 75
To amount of stamps remaining in hands of distributors, March 31, 1907	68,006 08	44,252 30	39,387 95	.....	.....	10,572 75	2,210 00	164,429 08
To balance, being the revenue during the nine months ended March 31, 1907	54,790 90	31,892 00	21,933 05	1,330 00	2,598 25	2,750 00	200 00	115,494 20
Totals	123,910 78	76,152 80	61,321 00	1,400 00	2,735 00	13,322 75	2,410 00	281,252 33

CR.

By amount of stamps in the hands of distributors, July 1, 1906	64,178 78	44,102 80	42,208 50	.....	.....	10,257 65	2,067 25	162,814 98
By stamps issued by the Inland Revenue Department during the nine months ended March 31, 1907	59,732 00	32,050 00	19,112 50	1,400 00	2,735 00	3,065 10	342 75	118,437 35
Totals	123,910 78	76,152 80	61,321 00	1,400 00	2,735 00	13,322 75	2,410 00	281,252 33

Inland Revenue Department,
Ottawa, May 31, 1907.

W. J. GERALD,
Deputy Minister.

WEIGHTS AND MEASURES, FOR NINE MONTHS ENDED MARCH 31, 1907.

DR. No. 19 (A).—INSPECTION DIVISIONS in Account with Revenue. CR.

BALANCES DUE BY INSPECTORS, JULY 1, 1906.		Stamps issued to Inspectors.	Seizures and Penalties.	Totals.	DIVISIONS.	Stamps returned or destroyed.	Deposited to the Credit of the Receiver General.	BALANCES DUE BY INSPECTORS, MARCH 31, 1907.		Totals.
Stamps on hand.	Cash on hand.							Stamps on hand.	Cash on hand.	
$ cts.	$ cts.	$ cts.	$ cts.	$ cts.		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
1,958 75		4,755 00	13 20	6,726 95	Belleville	5 60	2,653 15	4,068 20		6,726 95
4,021 31		7,900 00		11,921 31	Hamilton		7,493 51	4,427 80		11,921 31
2,844 11		2,385 00		5,229 11	Ottawa	14 70	2,495 22	2,719 19		5,229 11
5,868 13		7,760 00		13,628 13	Toronto		7,558 45	6,069 68		13,628 13
3,396 45		11,490 00	20 00	14,906 45	Windsor		6,843 90	8,062 55		14,906 45
18,088 75		34,290 00	33 20	52,411 95	*Ontario*	20 30	27,044 23	25,347 42		52,411 95
22,256 10		7,425 00	46 50	29,727 60	Montreal		10,631 35	19,096 25		29,727 60
5,670 00	67 40	2,525 00		8,262 40	Quebec		3,116 45	5,145 95		8,262 40
3,527 98		1,090 00		4,617 98	St. Hyacinthe		1,938 72	2,679 26		4,617 98
1,703 70				1,703 70	Three Rivers		257 45	1,446 25		1,703 70
33,157 78	67 40	11,040 00	46 50	44,311 68	*Quebec*		15,943 97	28,367 71		44,311 68
1,238 96	36 09	1,900 00		3,175 05	*St. John, N.B.*		2,275 57	899 48		3,175 05
227 02		473 50		700 52	Cape Breton	3 50	454 20	242 82		700 52
515 44		872 50		1,387 94	Halifax		882 39	505 55		1,387 94
1,674 04		1,941 00		3,615 04	Pictou	1,090 00	311 43	2,213 61		3,615 04
2,416 50		3,287 00		5,703 50	*Nova Scotia*	1,093 50	1,648 02	2,961 98		5,703 50
588 28		600 00		1,188 28	*Charlottetown, P.E.I.*		397 36	790 92		1,188 28

2,976 62		5,700 00		8,676 62	*Winnipeg, Man.*		5,595 94	3,080 68	8,676 62
316 89		1,080 00		1,396 89	*Calgary, Alberta*		588 20	808 69	1,396 89
688 80		1,000 00		1,688 80	Nelson		779 00	909 80	1,688 80
690 35		835 00		1,525 35	Vancouver		643 95	881 40	1,525 35
1,3 9 15		1,835 00		3,214 15	*British Columbia*		1,422 95	1,791 20	3,214 15
4,015 85				4,015 85	*Dawson, Yukon*		57 85	3,958 00	4,015 85
				124,093 97			54,974 09		124,093 97
				46 83	Less.- Refunds, as per statement No. 16.		46 83		46 83
64,178 78	103 49	59,732 00	79 70	124,047 14	Grand Totals	1,113 80	54,927 26	68,006 08	124,047 14

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1904.

W. J. GERALD,
Deputy Minister.

WEIGHTS AND MEASURES, 1906-1907.

No. 19 (B).—Deputy Inspectors of the Old Divisions in Account with Revenue.

Dr.			Cr.	
Balances due July 1, 1906. — Cash on hand.	Totals.	Divisions.	Balances due March 31, 1907. — Cash on hand.	Totals.
$ cts.	$ cts.		$ cts.	$ cts.
87 10	87 10	Essex	87 10	87 10
5 62	5 62	Hull, Quebec	5 62	5 62
92 72	92 72		92 72	92 72

W. J. GERALD,
Deputy Minister.

Inland Revenue Department.
Ottawa, May 31, 1907.

WEIGHTS AND MEASURES, FOR NINE MONTHS ENDED MARCH 31, 1907.

DR. No. 20 (A).—INSPECTION DIVISIONS in Account with Expenditures. CR.

Amounts received from Department to meet Expenditures.	Deductions from Salaries for		Totals.	Divisions.	Expenditures Authorized by the Department.						Totals.
	Superannuation.	Guarantee			Salaries.	Special Assistance	Seizures.	Rent.	Travelling Expenses.	Sundries.	
$ cts.	$ cts.	$ cts.	$ cts.		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
4,455 86	29 25	7 65	4,492 76	Belleville	2,537 46	320 88		269 58	1,052 19	312 65	4,492 76
5,612 39	12 03	9 75	5,634 17	Hamilton	4,161 46	257 35			1,139 12	76 24	5,634 17
4,380 02	11 25	9 15	4,400 42	Ottawa	3,527 25			62 52	747 01	63 64	4,400 42
4,690 07	11 97	8 10	4,710 14	Toronto	3,337 38	238 33			1,055 20	79 23	4,710 14
4,688 11	23 97	8 10	4,720 18	Windsor	3,374 76		13 30		1,159 28	172 84	4,720 18
23,826 45	88 47	42 75	23,957 67	*Ontario*	16,938 31	816 56	13 30	332 10	5,152 80	704 60	23,957 67
6,805 98	36 00	10 80	6,852 78	Montreal	4,574 79	597 57		380 25	1,131 97	168 20	6,852 78
6,848 23	40 86	13 05	6,902 14	Quebec	5,326 29	199 98		225 00	1,036 25	114 62	6,902 14
3,060 46		6 75	3,067 21	St. Hyacinthe	2,225 75				731 30	110 16	3,067 21
1,301 32		4 05	1,305 37	Three Rivers	1,199 97				77 60	27 80	1,305 37
18,015 99	76 86	34 65	18,127 50	*Quebec*	13,326 80	797 55		605 25	2,977 12	420 78	18,127 50
3,057 96	5 00	6 30	3,069 26	*St. John, N.B*	2,157 50	270 21			595 01	46 54	3,069 26
936 87		2 70	939 57	Cape Breton	637 50			37 50	244 57	20 00	939 57
2,609 26		4 05	2,613 31	Halifax	1,274 94	599 94		225 00	403 41	110 02	2,613 31
1,443 81	14 97	4 05	1,462 83	Pictou	1,274 97				136 46	51 40	1,462 83
4,989 94	14 97	10 80	5,015 71	*Nova Scotia*	3,187 41	599 94		262 50	784 44	181 42	5,015 71
1,444 70		4 05	1,448 75	*Charlottetown, P.E.I*	1,237 41				173 30	38 04	1,448 75

WEIGHTS AND MEASURES, FOR NINE MONTHS ENDED MARCH 31, 1907.

DR. No. 20 (A).—INSPECTION DIVISIONS in Account with Expenditures—*Concluded.* CR.

Amounts received from Department to meet Expenditures.	Deductions from Salaries for		Totals.	Divisions.	Expenditures Authorized by the Department.						Totals.
	Superannuation.	Guarantee			Salaries.	Special Assistance	Seizures.	Rent.	Travelling Expenses	Sundries.	
$ cts.	$ cts.	$ cts.	$ cts.		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
4,602 40	3 03	9 45	4,614 88	Winnipeg	2,812 38	250 00			1,390 33	162 17	4,614 88
1,012 22	13 23	3 46	1,028 91	Calgary	749 91				263 05	15 95	1,028 91
5,614 62	16 26	12 91	5,643 79	*Manitoba and Alberta*	3,562 29	250 00			1,653 38	178 12	5,643 79
1,406 80		2 70	1,469 50	Nelson	675 00			131 00	568 90	34 60	1,409 50
2,177 07		5 40	2,182 47	Vancouver	1,612 44			365 00	34 15	170 88	2,182 47
3,583 87		8 10	3,591 97	*British Columbia*	2,287 44			496 00	603 05	205 48	3,591 97
976 37		2 70	979 07	*Dawson*	749 97				196 60	32 50	979 07
2,304 38			2,304 38	Chief Inspector	1,950 00				342 30	12 08	2,304 38
2,200 88			2,200 88	General contingencies						2,200 88	2,200 88
166 17			166 17	Metric system						166 17	166 17
1,928 58			1,928 58	Printing						1,928 58	1,928 58
354 36			354 36	Stationery						354 36	354 36
228 15			228 15	Lithographing						228 15	228 15
449 91			449 91	Provisional allowance						449 91	449 91
69,142 33	201 56	122 26	69,466 15	Grand totals	45,397 13	2,734 26	13 30	1,695 85	12,478 00	7,147 61	69,466 15

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

W. J. GERALD,
Deputy Minister.

WEIGHTS AND MEASURES, 1906–1907.

DR. No. 20 (B).—OLD INSPECTION DIVISIONS in Account with Expenditures. CR.

Balances due by sundry persons, July 1, 1907.	Totals.	Divisions.	Balances due by sundry persons, March 31, 1907.	Totals.
$ cts.	$ cts.		$ cts.	$ cts.
39 56	39 56	Essex	39 56	39 56
33 53	33 53	Waterloo	33 53	33 53
73 09	73 09	*Ontario*	73 09	73 09
0 33	0 33	Drummond	0 33	0 33
41 45	41 45	Laval	41 45	41 45
26 88	26 88	Montmorency	26 88	26 88
27 51	27 51	Richelieu	27 51	27 51
96 17	96 17	*Quebec*	96 17	96 17
24 00	24 00	Lunenburg, Nova Scotia	24 00	24 00
193 26	193 26	Totals	193 26	193 26

W. J. GERALD,
Deputy Minister.

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

No. 21.—GAS INSPECTION FOR NINE MONTHS ENDED MARCH 31, 1907.

DR. Inspection Districts in Account with Revenue. CR.

Balances due by Inspectors, July 1, 1906.		Stamps issued to Inspectors.	Penalties.	Totals.	Districts.	Returned damaged Stamps.	Deposited to the credit of the Receiver General.	Balances due by Inspectors, March 31, 1907.		Totals.
Stamps on hand.	Cash on hand.							Stamps on hand.	Cash on hand.	
$ cts.	$ cts.	$ cts.	$ cts.	$ cts.		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
1,210 50				1,210 50	Barrie		74 25	1,136 25		1,210 50
1,271 25				1,271 25	Belleville		189 75	1,081 50		1,271 25
1,845 50				1,845 50	Berlin		254 25	1,591 25		1,845 50
624 25		275 00		899 25	Brockville		161 00	738 25		899 25
259 00		100 00		359 00	Cobourg		107 75	251 25		359 00
272 25		25 00		297 25	Cornwall	8 50	35 75	253 00		297 25
2,032 25				2,032 25	Guelph		414 25	1,618 00		2,032 25
3,312 50		6,700 00		10,012 50	Hamilton		7,307 00	2,705 50		10,012 50
697 25		375 00		1,072 25	Kingston		463 50	608 75		1,072 25
118 00				118 00	Listowel		30 00	88 00		118 00
1,880 00		2,075 00	25 00	3,980 00	London		2,021 75	1,958 25		3,980 00
405 25				405 25	Napanee		49 50	355 75		405 25
8,559 25		875 00		9,434 25	Ottawa		1,067 25	8,367 00		9,434 25
352 50				352 50	Owen Sound		53 00	299 50		352 50
635 75		100 00		735 75	Peterborough		112 50	623 25		735 75
604 25				604 25	Sarnia		144 75	459 50		604 25
1,104 25		150 00		1,254 25	Stratford		100 00	1,154 25		1,254 25
3,878 05		6,750 00		10,628 05	Toronto		7,054 75	3,573 30		10,628 05
		1,725 00		1,725 00	Woodstock		19 00	1,706 00		1,725 00
29,062 05		19,150 00	25 00	48,237 05	*Ontario*	8 50	19,660 00	28,568 55		48,237 05
2,684 50		7,950 00		10,634 50	Montreal		7,827 50	2,807 00		10,634 50
1,104 25		1,375 00		2,479 25	Quebec		547 25	1,932 00		2,479 25
364 50				364 50	Sherbrooke		48 00	316 50		364 50
949 75		150 00		1,099 75	St. Hyacinthe		31 50	1,068 25		1,099 75
5,103 00		9,475 00		14,578 00	*Quebec*		8,454 25	6,123 75		14,578 00

726 50				726 50	Fredericton		36 00	690 50		726 50
486 00		1,125 00		1,611 00	St. John		553 00	1,058 00		1,611 00
1,212 50		1,125 00		2,337 50	*New Brunswick*		589 00	1,748 50		2,337 50
1,230 25				1,230 25	*Halifax, N. S.*		222 00	1,008 25		1,230 25
687 00				687 00	*Charlottetown, P. E. I.*		37 75	649 25		687 00
1,430 50		1,875 00		3,305 50	*Winnipeg, Man.*		1,736 75	1,568 75		3,305 50
669 25				669 25	Nanaimo		57 00	612 25		669 25
943 00				943 00	New Westminster		75 00	868 00		943 00
3,094 00				3,094 00	Vancouver		707 25	2,386 75		3,094 00
671 25		425 00		1,096 25	Victoria		378 00	718 25		1,096 25
5,377 50		425 00		5,802 50	*British Columbia*		1,217 25	4,585 25		5,802 50
44,102 80		32,050 00	25 00	76,177 80	Totals	8 50	31,917 00	44,252 32		76,177 80

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

W. J. GERALD,
Deputy Minister.

7-8 EDWARD VII., A. 1908

GAS INSPECTION FOR NINE

DR. No. 22—INSPECTION DISTRICTS in

Balances due by Inspectors, July 1, 1906.	Amounts received from Department to meet Expenditures.	Deductions from Salaries for Superannuation.	Deductions from Salaries for Retirement.	Deductions from Salaries for Guarantee.	Totals.	Districts.
$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	
	71 65	1 50		2 70	75 85	Barrie
	487 43	5 28		4 86	497 57	Belleville
	107 68			2 70	110 38	Berlin
	10 25				10 25	Brockville
	107 20	1 50		2 70	111 40	Cobourg
	93 30	1 50		2 70	97 50	Cornwall
	173 09	3 00		2 70	178 79	Guelph
	2,777 69	27 00		6 75	2,811 44	Hamilton
	363 65			2 70	366 35	Kingston
	142 70			2 70	145 40	Listowel
	1,512 04			3 75	1,515 79	London
	72 58				72 58	Napanee
	2,076 87			4 86	2,081 73	Ottawa
	241 05			2 70	243 75	Owen Sound
	131 37			2 70	134 07	Peterborough
	2 25				2 25	Sarnia
	154 80	3 00		2 70	160 50	Stratford
	3,205 09	25 53		6 75	3,237 37	Toronto
	21 11			0 38	21 49	Woodstock
	11,751 80	68 31		54 35	11,874 46	*Ontario*
	2,804 70			6 21	2,810 91	Montreal
	1,448 23	23 78		4 50	1,476 51	Quebec
	181 17	2 25		4 05	187 47	Sherbrooke
	73 65			1 35	75 00	St Hyacinthe
	4,507 75	26 03		16 11	4,549 89	*Quebec*
	118 85			1 20	120 05	Fredericton
	891 86			2 70	894 56	St. John
	1,010 71			3 90	1,014 61	*New Brunswick*
	1,681 47	1 47		5 40	1,688 34	Halifax
12 88					12 88	Pictou
12 88	1,681 47	1 47		5 40	1,701 22	*Nova Scotia*
	334 80			2 70	337 50	*Charlottetown, P. E. I*
	835 35			4 86	840 21	*Winnipeg, Man*
	72 30			2 70	75 00	Nanaimo
	68 55		3 75	2 70	75 00	New Westminster
	351 35	4 50		2 70	358 55	Vancouver
	156 80	3 00		2 70	162 50	Victoria
	649 00	7 50	3 75	10 80	671 05	*British Columbia*
	75 00				75 00	Chief Inspector
200 00					200 00	General contingencies
	1,105 82				1,105 82	General expenditures
	235 00				235 00	Printing
	297 75				297 75	Stationery
	150 00				150 00	Lithographing
	2 51				2 51	Technical translation
212 88	22,636 96	103 31	3 75	98 12	23,055 02	*Grand Totals*

INLAND REVENUE DEPARTMENT, OTTAWA, May 31, 1907.

SESSIONAL PAPER No. 12

MONTHS ENDED MARCH 31, 1907.

Account with Expenditures. CR.

Expenditures Authorized by the Department.					Balances due by Inspectors, March 31, 1907.	Totals.
Salaries.	Special Assistance.	Rent.	Travelling Expenses.	Sundries.		
$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
75 00				0 85		75 85
337 47		131 25	27 40	1 45		497 57
75 00			24 20	11 18		110 38
				10 25		10 25
75 00			15 05	21 35		111 40
75 00				22 50		97 50
150 00			4 00	24 79		178 79
2,410 69		90 00	236 15	74 60		2,811 44
300 00		22 50		43 85		366 35
75 00		58 50		11 90		145 40
1,287 44			135 75	92 60		1,515 79
				72 58		72 58
1,312 47	405 00	300 00		64 26		2,081 73
150 00		93 75				243 75
112 50			18 30	3 27		134 07
				2 25		2 25
150 06				10 50		160 50
3,149 88			6 00	81 49		3,237 37
21 49						21 49
9,756 94	405 00	696 00	466 85	549 67		11,874 46
2,474 91		180 00	36 40	119 60		2,810 91
1,345 78		112 50	1 70	16 53		1,476 51
187 47						187 47
75 00						75 00
4,083 16		292 50	38 10	136 13		4,549 89
69 05			50 70	0 30		120 05
825 00			64 35	5 21		894 56
894 05			115 05	5 51		1,014 61
1,199 91		232 35	164 00	92 08		1,688 34
					12 88	12 88
1,199 91		232 35	164 00	92 08	12 88	1,701 22
337 50						337 50
771 46			58 00	10 75		840 21
75 00						75 00
75 00						75 00
225 00			69 85	63 70		358 55
150 00				12 50		162 50
525 00			69 85	76 20		671 05
75 00						75 00
					200 00	200 00
				1,105 82		1 105 82
				235 00		235 00
				297 75		297 75
				150 00		150 00
				2 51		2 51
17,643 02	405 00	1,220 85	911 85	2,661 42	212 88	23,055 02

W. J. GERALD, *Deputy Minister.*

ELECTRIC LIGHT INSPECTION, FOR NINE MONTHS ENDED MARCH 31, 1907.

DR. No. 23.—INSPECTION DISTRICTS in account with Revenue. CR.

BALANCES DUE BY INSPECTORS JULY 1, 1907.		Stamps issued to Inspecto	Registration Fees accured.	Totals.	DISTRICTS.	DEPOSITED TO THE CREDIT OF THE RECEIVER GENERAL.		BALANCES DUE BY INSPECTORS MARCH 31, 1907.		Totals.
Stamps on hand.	Cash on hand.					Registration Fees.	Inspection Fees.	Stamps on hand.	Cash on hand.	
$ cts.	$ cts.	$ cts.	$ cts.	$ cts.		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
3,395 00		475 00	438 75	4,308 75	Belleville	438 75	706 75	3,163 25		4,308 75
2,196 25		1,675 00	217 50	4,088 75	Hamilton	217 50	1,604 75	2,266 50		4,088 75
1,850 50		1,015 00	469 38	3,334 88	London	469 38	1,184 00	1,681 50		3,334 88
7,420 25		625 00	350 00	8,395 25	Ottawa	350 00	1,266 25	6,779 00		8,395 25
7,035 75		3,000 00	713 75	10,749 50	Toronto	713 75	4,323 25	5,712 50		10,749 50
21,897 75		6,790 00	2,189 38	30,877 13	*Ontario*	2,189 38	9,085 00	19,602 75		30,877 13
2,756 75		5,000 00	161 25	7,918 00	Montreal	161 25	4,396 75	3,360 00		7,918 00
2,326 00		425 00	168 75	2,919 75	Quebec	168 75	330 25	2,420 75		2,919 75
416 50		1,050 00	173 75	1,640 25	Sherbrooke	173 75	154 50	1,312 00		1,640 25
1,169 75			108 75	1,278 50	St. Hyacinthe	108 75	138 75	1,031 00		1,278 50
350 75		75 00	50 00	475 75	Three Rivers	50 00	141 50	284 25		475 75
7,019 75		6,550 00	662 50	14,232 25	*Quebec*	662 50	5,161 75	8,408 00		14,232 25
1,739 00		750 00	183 75	2,672 75	*St. John, N.B.*	183 75	923 50	1,565 50		2,672 75
2,708 25		422 50	333 75	3,464 50	*Halifax, N.S.*	333 75	750 75	2,380 00		3,464 50
299 50			30 00	329 50	*Charlottetown, P.E.I*	30 00	37 25	262 25		329 50
2,085 75		2,200 00	356 25	4,642 00	*Winnipeg, Man.*	356 25	3,160 75	1,125 00		4,642 00
833 25				833 25	*Calgary, Alta.*		171 80	661 45		833 25
3,177 25		1,750 00	187 50	5,114 75	Vancouver	187 50	2,150 75	2,776 50		5,114 75
1,098 00		650 00	48 75	1,796 75	Victoria	48 75	491 50	1,256 50		1,796 75
4,275 25		2,400 00	236 25	6,911 50	*British Columbia*	236 25	2,642 25	4,033 00		6,911 50

1,350 00			26 25	1,376 25	..Dawson	26 25		1,350 00	1,376 25
42,208 50		19,112 50	4,018 13	65,339 13	.....Grand totals	4,018 13	21,933 05	39,387 95	65,339 13
				27 88	Refunds, as per Statement No. 16	16 88	11 00		27 88
				65,311 25		4,001 25	21,922 05		65,311 25

INLAND REVENUE DEPARTMENT,

OTTAWA, May 31, 1907.

W. J. GERALD,

Deputy Minister.

ELECTRIC LIGHT INSPECTION, 1906–1907.

Dr. No. 24.—Inspection Districts in Account with Expenditures. Cr.

Amounts received from Department to meet expenditures.	Guarantee.	Totals.	Districts.	Expenditures Authorized by the Department.				
				Salaries.	Special Assistance.	Travelling Expenses.	Sundries.	Totals.
$ cts.	$ cts.	$ cts.		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
415 01	1 35	416 36	Belleville	90 84		261 45	64 07	416 36
47 65		47 65	Hamilton				47 65	47 65
327 35		327 35	London		80 00	242 15	5 20	327 35
154 95		154 95	Ottawa			154 95		154 95
2 00		2 00	Owen Sound				2 00	2 00
373 62		373 62	Toronto			348 70	24 92	373 62
72 50		72 50	Montreal			26 85	45 65	72 50
96 33		96 33	Quebec			20 65	75 68	96 33
49 80		49 80	Sherbrooke			30 55	19 25	49 80
317 00	1 35	316 35	St. Hyacinthe	225 00		89 15	2 20	316 35
414 00		414 00	Three Rivers	375 00		39 00		414 00
176 69		176 69	St. John			171 91	4 78	176 69
100 10		100 10	Halifax			94 80	5 30	100 10
44 84		44 84	Charlottetown			16 85	27 99	44 84
38 65		38 65	Victoria			34 50	4 15	38 65
55 10		55 10	Winnipeg			42 60	12 50	55 10
105 91	1 20	107 11	Calgary	101 16		5 95		107 11
372 24	2 70	374 94	Yukon	374 94				374 94
2,815 15		2,815 15	Chief Electr. Engineer	2,128 70	346 21	87 61	252 63	2,815 15
1,620 36		1,620 36	General Contingencies				1,620 36	1,620 36
301 93		301 93	Printing				301 93	301 93
44 92		44 92	Stationery				44 92	44 92
1 00		1 00	Technical translation				1 00	1 00
7,945 10	6 60	7,951 70	Totals	3,295 64	426 21	1,667 67	2,562 18	7,951 70

W J. GERALD,
Deputy Minister.

Inland Revenue Department,
Ottawa, May 31, 1907.

SESSIONAL PAPER No. 12

No. 25.—STATEMENT showing the Amounts voted, and the Expenditures authorized for each service for nine months ended March 31, 1907.

Services.	Grants.	Expenditures.	Over Expenditures.	Under Expenditures.
	$ cts.	$ cts.	$ cts.	$ cts.
Minister's salary	5,250 00	5,250 00		
Departmental salaries	37,107 50	36,215 01		892 49
" contingencies	5,250 00	5,159 20		90 80
Excise salaries	300,574 75	290,418 69		10,156 06
" contingencies	58,000 00	58,019 95	19 95	
Duty pay	6,300 00	6,292 05		7 95
" other than special survey	700 00	693 75		6 25
Preventive service	9,000 00	8,586 21		413 79
Tobacco stamps	48,000 00	43,366 78		4,633 22
Commission to Customs officers	4,500 00	4,318 51		181 49
Tobacco stamps commission	100 00	5 49		94 51
L. A. Frechette, translation	100 00	66 43		33 57
Provisional allowance	2,850 00	2,848 69		1 31
Methylated spirits	43,000 00	42,607 33		392 67
Weights and measures, salaries	45,000 00	45,397 13	397 13	
" " contingencies	26,000 00	24,439 64		1,560 36
Gas and electric light, salaries	21,800 00	20,938 66		861 34
" " contingencies	10,000 00	9,851 67		148 33
Adulteration of food	22,000 00	21,777 33		222 67
Minor expenditure	500 00			500 00
Metric system	3,200 00	1,166 17		2,033 83
	649,232 25	627,418 69	417 08	22,230 64

W. J. GERALD,
Deputy Minister.

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

DR. No. 26.—STATEMENT showing the transactions in connection with the manufacture of Methylated Spirits for the nine months ended March 31, 1907. CR.

	Amounts.	Totals.		Amounts.	Totals.
	$ cts.	$ cts.		$ cts.	$ cts.
To Stock on hand July 1, 1906, viz		8,318 52	By Cash received on account of Methylated Spirits, &c., viz		42,664 80
Wood Naphtha, 3,872·75 Proof Galls. = 2,280·31 Std. Galls. at $1.29	2,941 60		Methylated Spirits, 70,642·38 Proof Galls. = 42,592·01 Std. Galls :—		
Methylated Spirits, 4,781·52 Proof Galls. = 2,887·77 Std. Galls., viz.:—			2,739 68 Std. Galls. at 68 c	1,862 95	
2,154·43 Galls. No. 1 at $1.10	2,369 87		10,504·27 " 70 c	7,352 90	
300·47 " No. 2 at $1.50	450 66		2,303·71 " 78 c	1,796 82	
432·87 " Special at $1.10	476 16		11,120·41 " 80 c	8,896 38	
Alcohol, 2,467·45 Proof Galls. at 30c	740 23		2,407·11 " 88 c	2,118 20	
Drums on hand, 88 at $10 and 4 at $4	896 00		5,971 08 " 90 c	5,373 93	
Barrels, 148 at $3	444 00		862·17 " $1.00	862 17	
			877·92 " $1.08	948 16	
			3,043·93 " $1.10	3,348 29	
			2,300·97 " $1.25	2,876 15	
To Stock sold in 1905-06 and not paid until after July 1, 1906		547 10	460·76 " $1.50	691 13	
Methylated Spirits, 773·44 Proof Galls. = 467·19 Std. Galls., viz.:—			Barrels, 1,340 at $3, 11 at $2.50, cans, 1 at $2.40, 2 carboys, $6	4,055 90	
39·53 Std. Galls. at $1.08	42 68		Drums, 131 at $10, 101 at $12 and 1 can, $5.50	2,527 50	
427·66 " $1.10	470 42		Received for freight	1 07	
Barrels, 8 at $3, drums, 1 at $10	34 00			42,711 05	
			Less—Refunded (see Ref. 35,746)	46 75	
To Stock bought, entered in warehouse and not paid for until after March 31, 1907		3,942 50	By Methylated Spirits sold and not paid up to March 31, 1907		1,360 84
Alcohol, 913·70 Proof Galls. at 10c	91 37		2,102·11 Proof Galls. = 1,268·60 Std. Galls., viz:—		
4,263·55 " 25c	1,065 89		682·21 Std. Galls. at 68 cts	464 24	
Wood Naphtha, 3,044 Proof Galls. = 1,796·31 Std. Galls. at $1.29	2,317 24		505·77 " 70 cts	354 03	
Barrels, 76 at $3, drums, 20 at $12	468 00		80·71 " 80 cts	64 57	
			Barrels, 19 at $3, drums, 4 at $10	97 00	
			Barrels sold and not paid for until after March 31, 1907, 47 at $3	141 00	
To Disbursements for purchases, &c., viz		36,499 70	Drums sold and not paid for until after March 31, 1907, 20 at $10	240 00	
Alcohol, 3,422·09 Proof Galls. at 10c	342 23				
46,865 18 " 25c	11,716 26				
4,100·09 " 30c	1,230 03				
Wood Naphtha, 20,911·72 Proof Galls. = 12,498·15 Std. Galls., viz.:—			By Stock on hand, March 31, 1907		12,538 67
			Alcohol, 913·70 Proof Galls. at 10 c	91 37	

87·50 Std. Galls. at 80c.	70 00			" 4,263·55 " 25 c.	1,065 89	
12,410·65 " $1.29.	16,009 74			Wood Naphtha, 9,098·71 Proof Galls. =5,431·94 Std. Galls., viz.:—		
Barrels, 13 at $2.50	32 50			87 50 Std. Galls. at 80 c.	70 00	
" 1,369 at $3	4,107 00			5,344·44 " $1.29.	6,894 33	
Drums, 112 at $10	1,120 00			Methylated Spirits, 6,336·33 Proof Galls. =3,825·78 Std. Galls., viz.—		
" 136 at $12	1,632 00			2,481·23 Std. Galls. No. 1 af 70 c.	1,736 86	
Add amount overpaid	337 43			1,010·60 " No. 2 at 80 c.	808 48	
	36,597 19			333·95 " Special at 70 c.	233 74	
Less Freight	97 47			Barrels, 164 at $3	492 00	
				Drums, 65 at $12, 36 at $10, 4 at $1	1,146 00	
To other expenses as follows		6,107 63				
Rent	600 00			Amount to be refunded		337 43
Salaries	3,337 29					
Retirement	75 03			Material used in manufacture—		
Freight	1,340 39			Wood Naphtha, 18,730·50 Proof Galls. =11,142·83 Std. Galls.		
Stationery	15 54			Alcohol, 56,854·81 Proof Galls.		
Printing	23 45			Barrels destroyed, 29.		
Sundries including rent of motor power, fuel, &c.	715 93					
Manufactured during the year:—						
Methylated Spirits—						
73,458·78 Proof galls. =44,291·01 Std. galls.						
1 bar'l excess package 67·08 " = 40 51 "						
(1 barrel). 73,525·86 " =44,331·52 "						
Net profit		1,486 29				
Total		56,901 74		Total		56,901 74

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

W. J. GERALD,
Deputy Minister.

APPENDIX A

STATISTICS

APPENDIX A.—SPIRITS.

No. 1.—RETURN of Manufactures for the nine months ended March 31, 1907.

DIVISIONS.	LICENSES.		GRAIN, &c., TAKEN FOR USE.						TOTALS.	USED IN SPIRITS PRODUCED.		Proof Spirits Manufactured.	Duty Collected ex-Manufactory, on Deficiencies and Assessments.		Total Duty Collected ex-Manufactory, including License Fees.
	No.	Fees.	Malt.	Indian Corn.	Rye.	Oats.	Wheat.	Molasses.		Grain.	Molasses.				
		$	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Galls.	Galls.	$ cts.	$ cts.
Belleville, Ont	1	187 50	346,756	3,126,480	75,460	.....	*13,104	.....	3,561,800	3,410,600	.....	190,513·10	.....	.....	187 50
Guelph "	1	187 50	351,500	4,446,100	608,190	47,810	292,000	.....	5,745,600	5,636,400	.....	329,435·65	59·88	113 77	301 27
Hamilton "	1	187 50	167,090	2,826,885	122,925	23,870	678,430	.....	3,819,200	3,707,200	.....	226,540·98	.....	.....	187 50
Perth "	2	375 00	277,359	.....	.....	.....	.....	.....	277,359	262,595	.....	14,676·47	.....	.....	375 00
Prescott "	1	187 50	158,480	3,192,240	582,640	16,980	11,660	.....	3,962,000	3,850,000	.....	239,868·97	.....	.....	187 50
Toronto "	2	375 00	1,301,370	15,545,160	3,131,730	111,900	.....	12,639,175	32,729,335	19,442,160	12,639,175	1,730,016·08	4,306·78	8,182 88	8,557 88
Windsor "	1	187 50	2,453,910	20,073,000	4,017,710	169,900	1,153,600	.....	27,868,120	27,363,462	.....	1,608,706·91	.....	.....	187 50
Totals. ...	9	1,687 50	5,056,465	49,209,865	8,538,655	370,460	*13,104 2,135,690	12,639,175	77,963,414	63,672,417	12,639,175	4,339,758·16	4,366·66	8,296 65	9,984 15
Joliette, Que.	1	†	1,043,225	1,149,000	1,168,675	.....	57,050	.....	3,417,950	3,415,200	.....	170,756·80	.....	.....	.....
Montreal "	1	187 50	13,469	.....	.....	10,180	.....	5,190,647	5,214,596	23,949	5,190,647	311,464·33	.....	.....	187 50
Quebec "	1	187 50	84,975	683,460	90,515	.....	.....	.....	858,950	844,950	.....	39,390·83	.....	.....	187 50
St. Hyacinthe	1	187 50	136,062	1,714,190	256,000	.....	.....	.....	2,106,252	2,092,252	.....	132,250·45	.....	.....	187 50
Totals.. . .	4	562 50	1,277,731	3,546,650	1,515,190	10,480	57,050	5,190,647	11,597,748	6,376,351	5,190,647	653,862·41	.....	.....	562 50
Vancouver, B.C.	1	187 50	53,150	.....	15,995	7,630	1,056,865	.....	1,133,640	1,081,640	.....	67,768·93	108·25	205 67	393 17
Grand Totals	14	2,437 50	6,387,346	52,756,515	10,069,840	388,570	*13,104 3,249,605	17,829,822	90,694,802	71,130,408	17,829,822	5,061,389·50	4,474·91	8,502 32	10,939 82

† Fee paid last year. * Barley.

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

W. J. GERALD,
Deputy Minister.

APPENDIX A.—*Continued*—SPIRITS.

No. 2.—Comparative Statement of Manufactures for the Fiscal Year ended June 30, 1906 and the nine months ended March 31, 1907.

Provinces.	Licenses.		Grain, &c., taken for use.						Totals.	Used in Spirits Produced.		Proof Spirits Manufactured.	Duty Collected ex-Manufactory, on Deficiencies and Assessments.		Total Duty Collected ex-Manufactory, including License Fees.
	No.	Fees.	Malt.	Indian Corn.	Rye.	Oats.	Wheat.	Molasses.		Grain.	Molasses.				
1906.		$	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Galls.	Galls.	$ cts.	$ cts.
Ontario	9	2,125 00	6,701,150	74,148,343	16,690,244	505,870	626,368	.....	98,671,975	98,480,095	.....	5,818,289·68	3,764·81	7,153 55	9,278 55
Quebec	3	687 50	1,469,921	3,168,560	1,840,232	.....	31,218	7,732,144	14,242,075	6,507,531	7,732.144	803,775·01	.....	.....	687 50
Brit. Columbia	1	250 00	80,663	221,915	38,498	12,215	1,548,404	.....	1,901,695	1,901,695	.....	121,179 15	.....	.....	250 00
Totals	13	3,062 50	8,251,734	77,538,818	18,568,974	518,085	2,205,990	7,732,144	114,815,745	106,889,321	7,732,144	6,743,243·81	3,764·81	7,153 55	10,216 05
1907.															
							*13,104								
Ontario	9	1,687 50	5,056,465	49,209,865	8,538,655	370,460	2,135,690	12,639,175	77,963,414	63,672,417	12,639,175	4,339,758·16	1,366·66	8,296 65	9,984 15
Quebec	4	562 50	1,277,731	3,516,650	1,515,190	10,480	57,050	5,190,647	11,597,748	6,376,351	5,190,647	653,862·41	.....	.....	562 50
Brit. Columbia	1	187 50	53,150	.....	15,995	7,630	1,056,865	.....	1,133,640	1,081,640	.....	67,768·93	108·25	205 67	393 17
Totals	14	2,437 50	6,387,346	52,756,515	10,069,840	388,570	*13,104 3,249,605	17,829,822	90,694,802	71,130,408	17,829,822	5,061,389·50	4,474·91	8,502 32	10,939 82

* Barley.

Inland Revenue Department,
Ottawa, May 31, 1907.

W. J. GERALD,
Deputy Minister.

APPENDIX A.—*Continued*—SPIRITS.

No. 3.—STATEMENT showing the transactions in the Distilleries in the

DIVISIONS.	In Process, including Deficiencies, brought forward.	Manufactured, including surpluses.	RETURNED TO DISTILLERY FOR REDISTILLATION.		Received from other sources, Duty Paid.
			In Bond.	Duty Paid.	
	Gallons.	Gallons.	Gallons.	Gallons.	Gallons.
Belleville, Ont	2,411 60	190,513 10	221 85		2,544 85
					*75 61
Guelph "	30,001 81	329,435 65	135 76		1,512 58
Hamilton "	997 35	226,540 98	65,634 73		548 63
Perth "	129 61	14,676 47			
Prescott "	39,547 25	239,868 97	316 43		1,406 09
Toronto "	17,474 20	1,730,016 08	524,650 26	138 22	2,660 69
Windsor "	67,522 03	1,608,706 91	416,128 89		723 84
Totals	158,083 85	4,339,758 16	1,007,087 92	138 22	*75 61 9,396 68
Joliette, Que	3,495 27	170,756 80			
Montreal "	34,148 22	311,464 33			
Quebec "		39,390 83			
St. Hyacinthe, Que	13,704 89	132,250 45			387 16
Totals	51,348 38	653,862 41			387 16
Vancouver, B.C	10,344 86	67,768 93	47 68		448 80
Grand Totals	219,777 09	5,061,389 50	1,007,135 60	138 22	*75 61 10,232 64

* In bond.

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

Dominion of Canada during the nine months ended March 31, 1907.

Totals.	Warehoused.	Fusel Oil written off.	Deficiencies on which duty was collected.	In Process, including Deficiencies, carried forward.	Totals.
Gallons.	Gallons.	Gallons.	Gallons.	Gallons.	Gallons.
195,691 40	141,419 96	2,411 60	....	51,859 84	195,691 40
361,161 41	323,688 39	1,994 26	59 88	35,418 88	361,161 41
293,721 69	266,340 35	527 47	....	26,853 87	293,721 69
14,806 08	14,484 86	....	....	321 22	14,806 08
281,138 74	265,001 95	1,345 59	. .. .	14,791 20	281,138 74
2,274,939 45	2,211,119 43	7,939 38	4,306 78	51,573 86	2,274,939 45
2,093,081 67	2,001,776 50	1,139 69	.....	90,165 48	2,093,081 67
5,514,540 44	5,223,831 44	15,357 99	4,366 66	270,984 35	5,514,540 44
174,252 07	163,723 22	....	....	10,528 85	174,252 07
345,612 55	307,125 31	17,287 60	....	21,199 64	345,612 55
39,390 83	33,505 15	.....	....	5,885 68	39,390 83
146,342 50	126,556 32	....	....	19,786 18	146,342 50
705,597 95	630,910 00	17,287 60	..... .	57,400 35	705,597 95
78,610 27	65,781 10	346 04	108 25	12,374 88	78,610 27
6,298,748 66	5,920,522 54	32,991 63	4,474 91	340,759 58	6,298,748 66

W. J. GERALD,
Deputy Minister.

APPENDIX A.—*Continued*—SPIRITS.

DR. No. 4.—WAREHOUSE RETURN

Remaining in Warehouse from last year.	Warehoused	Imported.	Received from other Divisions.	Totals.	DIVISIONS.	Entered for Consumption.	
Galls.	Galls.	Galls.	Galls.	Galls.		Galls.	$ cts.
759,524·07	141,419·96	.....	44,484·10	945,428·13	Belleville, Ont.	62,699·74	119,129 60
6,523·83	.....	.....	18,614 11	25,137·94	Brantford "	14,886·06	28,283 67
323·13	.....	.....	3,037·09	3,360·22	Cornwall "	2,921·25	5,550 42
1,223,688·05	323,688·39	.....	36,723·35	1,584,099·79	Guelph "	201,243·42	379,798 00
765,797·81	266,340·35	.....	96,313·11	1,128,451·27	Hamilton "	117,333·06	222,381 99
5,211·76	.....	.....	38,973·66	44,185·42	Kingston "	30,911·45	58,734 97
4,659·10	.....	.....	31,388·80	36,047·90	London "	30,372·15	57,709 22
33,745·98	.....	.....	132,011·80	165,757·78	Ottawa "	127,892·98	243,142 16
3,780·19	.....	.....	59,453 24	63,233·43	" Govt. Wse. "	.....	.....
.....	.....	.....	77 00	77·00	" Dept. Lab. "	.....	.....
94·52	.....	.....	.....	94·52	Owen Sound "	94·52	181 56
97,758·99	14,484·86	.....	46,981·81	159,225·66	Perth "	52,005·20	98,415 15
7,190·22	.....	.....	18,178·81	25,369·03	Peterboro' "	18,315·54	34,806 73
5,314·59	.....	.....	20,832·77	26,147·36	Port Arthur "	19,186·83	36,472 87
1,115,884·70	265,001 95	143,745·07	5,903·40	1,530,535·12	Prescott "	26,673·20	93,803 24
694·22	.....	.....	4,584 45	5,278·67	St. Cath'ines "	4,493·47	8,537 82
2,048 73	.....	.....	12,832·22	14,880·95	Stratford "	13,520·02	25,690 47
4,519,011·19	2,211,119·43	.....	159,360·82	6,889,491·44	Toronto "	391,831·30	738,872 38
6,150,902·71	2,001,776·50	.....	50,034·46	8,202,713 67	Windsor "	182,112·72	344,188 30
14,702,153·79	5,223,831·44	143,745·07	779,785·00	20,849,515·30	..Totals.....	1,296,492·91	2,495,698 55
495,820·83	163,723·22	.....	9,131·81	668,675·86	Joliette, Que.	13,118·69	24,998 26
1,178,549·62	307,125·31	*25·80	657,546·62	2,143,247·35	Montreal "	769,740·17	1,458,094 35
37,510·79	33,505·15	.....	204,982·11	275,998·05	Quebec "	183,021·77	347,945 02
247,724·97	126,556·32	.....	65,137·66	439,418·95	St. Hya'nthe "	57,481·31	109,305 33
6,677·74	.....	13,579·78	73,577·94	93,835·46	Sherbrooke "	66,284·23	130,838 92
8,526·45	.....	.....	27,692·00	36,218·45	Three Rivers "	31,422·26	59,753 82
1,974,810·40	630,910 00	25·80 13,579·78	1,038,068·14	3,657,394·12	..Totals.....	1,121,068·43	2,130,935 70
17,321·93	.....	.....	76,646·92	93,968 85	St. John, N.B.	68,303·67	129,790 77
6,388·31	.....	.....	27,878·95	34,267·26	Halifax, N.S..	22,544 95	42,856 39
802·82	.....	.....	5,830·81	6,633·63	Pictou " ..	5,894·56	11,211 62
7,191 13	.....	.....	33,709 76	40,900·89	..Totals.	28,439·51	54,068 01
68,368·25	.....	.....	363,448·06	431,816·31	Winnipeg, Man	320,830·88	609,501 79
14,246·35	.....	.....	69,430·46	83,676·81	Calgary, Alta..	59,770·07	113,580 73
220,288·72	65,781·10	.....	97,465·55	383,535·37	Vancouver, B.C	85,365·10	162,201 43
17,758·41	.....	.....	56,639 61	74,398·02	Victoria "	49,700 04	94,434 35
238,047·13	65,781·10	.....	154,105·16	457,933·39	..Totals.....	135,065·14	256.635 78
3,668·15	.....	.....	2,440 20	6,108·35	Dawson, Y.T..	3,468·84	6,590 83
8,612·54	.....	.....	.....	8,612·54	Sundries.....	.....	.....
17,034,419·67	5,920,522 54	*25·80 157,324·85	2,517,633·70	25,629,926·56	..Grand Totals.	3,033,429·45	5,796,802 16

* Seizure.

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

for the nine months ended March 31, 1907. CR.

Removed in Bond.		Free.		Exported.	Used in Bonded Factories.	Remainnig in Warehouse.	Totals.
To other Divisions.	To Distillery for Re-distillation.	Legal Allowance.	Other.				
Galls.	Galls.	Galls.	Galls.	Galls.	Galls.	Galls.	Galls.
142,823·13	221·85	3,670·11	2,440·12	391·00	.....	733,182·18	945,428 13
.....	.....	.....	.....	.....	4,147·84	6,104·04	25,137 94
.....	.....	.....	.....	.....	.....	438·97	3,360 22
63,410·10	135·76	23,980·72	1,297·38	33,661·99	.....	1,260,370·42	1,584,099 79
95,598·91	65,634·73	6,195·06	184·76	1,862·28	18,290·99	823,351·48	1,128,451 27
.....	.....	.....	.....	40·25	7,268·31	5,965 41	44,185 42
90·00	.....	.....	.....	34 98	.....	5,550·77	36,047 90
588·30	.....	.....	196·80	.....	3,622 63	33,457·07	165,757 78
.....	.....	.....	.....	.....	‡56,854·81	6,378·62	63,233 43
.....	.....	.....	77·00	.....	.....	.....	77 00
.....	.....	.....	.....	.....	.....	.....	94 52
3,708 35	.....	436·32	.....	3·33	.....	103,072·46	159,225 66
320·40	.....	.....	.....	.....	.....	6,733·09	25,369 03
.....	.....	.....	.....	.....	.....	6,960·53	26,147 36
217,849·92	316·43	4,615·28	1,209·97	1,357·33	143,745·07	1,134,767·92	1,530,535 12
.....	.....	.....	.....	.....	.....	785·20	5,278 67
.....	.....	.....	.....	.....	.....	1,360·93	14,880 95
864,980 95	524,650 26	17,178·50	3,353·90	6,043·60	82,506·74	4,998,946·19	6,889,491 44
688,002·59	416,128 89	53,025·35	778·52	255,333·00	.....	6,607,332·60	8,202,713 67
2,077,372·65	1,007,087·92	109,101·34	9,538·45	298,727·76	56,854·81 259,581·58	15,734,757·88	20,849,515 30
139,843·55	.....	665·10	.....	.....	.....	515,048·52	668,675 86
224,862·52	.....	3,633·01	.....	374·21	37,360·08	1,107,277·36	2,143,247 35
400·97	.....	.....	1,108·35	.....	14,423·09	77,043·87	275,998 05
52,867·22	.....	708·50	428·21	.....	16,454·65	311,479 06	439,418 95
.....	.....	.....	.....	.....	18,903·54	8,647·69	93,835 46
.....	.....	.....	.....	.....	.....	4,796·19	36,218 45
417,974·26	.....	5,006·61	1,536·56	374·21	87,141·36	2,024,292·69	3,657,394 12
236.69	.....	.....	.....	55·83	9,424·82	15,947·84	93,968 85
5,027 90	.....	.....	.....	177·86	.....	6,516·55	34,267 26
.....	.....	.....	.....	.....	.....	739·07	6,633 63
5,027 90	.....	.....	.....	177 86	.....	7,255·62	40,900 89
11,970·51	.....	.....	.....	40·44	10,844·48	88,130·00	431,816 31
.....	.....	.....	.....	.....	.....	23,906·74	83,676 81
4,517·22	47.68	487·74	.....	84·99	5,055·27	287,977·37	383,535 37
534·47	.....	.....	.....	4,057·08	.....	20,106·43	74,398 02
5,051·69	47·68	487·74	.....	4,142 07	5,055·27	308,083·80	457,933 39
.....	.....	.....	.....	75·35	.....	2,564·16	6,108 35
.....	.....	.....	.....	.....	.....	8,612·54	8,612 54
2,517,633·70	1,007,135·60	114,595 69	11,075·01	303,593·52	‡56,854·81 372,047·51	18,213,551·27	25,629,926 56

† This amount includes $47,197.46 collected on Imported Spirits used in bonded factories, at 30c. per gallon.

‡ Used in the manufacture of Methylated Spirits at the Government Warehouse, Ottawa.

W. J. GERALD,

Deputy Minister.

APPENDIX A.—*Continued*—SPIRITS.

DR. No. 5.—COMPARATIVE STATEMENT of Warehouse Returns for

Remaining in Warehouse from last year.	Warehoused.	Imported.	Received from other Divisions.	Totals.	Provinces.	Entered for Consumption.	
Galls.	Galls.	Galls.	Galls.	Galls.	1906.	Galls.	$ cts.
12,697,070·47	6,961,543·09	200,788·53	973,501·08	20,832,903·17	Ontario	1,485,025·89	2,866,941 92
1,588,033·08	801,967·35	‡16·20 38,675·46	1,402.641·69	3,831,333 78	Quebec..	1,378,674·35	2,623,134 52
15,127·55	.. ..	....	93,587·71	108,715·26	New Brunswick.	81,339·17	154.562 54
8,292·58	.....	.. ..	38,042·76	46,335·34	Nova Scotia .. .	34,420·63	65,421 36
51,682·56	.. ..	... .	374,565·36	426,247·92	Manitoba	346,584·39	658,080 11
11,112·45	... .	....	60,890·54	72,002·99	Alberta	57,717·04	109,673 91
132,027·82	115,455·80	....	169,255·60	416,739·22	B. Columbia.. .	155,725·36	295,904 43
2,205·10	.....	.....	7,760·57	9,965·67	Yukon Territory	6,297·52	11,965 24
8,612·54	....	....	.....	8,612·54	Sundries.. ...	.. ..	....
14,514,164·15	7,878,966·24	*16·20 239,463·99	3,120,245·31	25,752,855·89	..Totals	3,545,785·35	6,785,684 03
					1907.		
14,702,153·79	5,223,831·41	143,745·07	779,785·00	20,849,515·30	Ontario.....	1,296,492·91	2,495,698 55
1,974,810·40	630,910·00	25·80 13,579·78	*1,038,068·14	3,657,394·12	Quebec.	1,121,068·43	2,130,935 70
17,321·93	.....	.....	76,646·92	93,968·85	New Brunswick.	68,303·67	129,790 77
7,191·13	....	... .	33,709·76	40,900·89	Nova Scotia	28,439·51	54,068 01
68,368·25	.. ..	... .	363,448·06	431,816·31	Manitoba	320,830·88	609,501 79
14,246·35	.....	....	69,430·46	83,676·81	Alberta.....	59,770·07	113,580 73
238,047·13	65,781·10	.....	154,105·16	457,933·39	B. Columbia....	135,065·14	256,635 78
3,668·15	.....	.....	2,440·20	6,108·35	Yukon Territory	3,468·84	6,590 83
8,612·54	.....	.. . .	.....	8,612·54	Sundries.....	....	. .. .
17,034,419·67	5,920,522·54	25·80 157,324·85	*2,517,633·70	25,629,926·56	..Totals	3,033,439·45	5,796,802 16

‡Seizure

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

the Fiscal Year ended June 30, 1906, and the nine months ended March 31, 1907. Cr.

Removed in Bond.		Free.		Exported.	Used in Bonded Factories.	Remaining in Warehouse.	Totals.
To other Divisions.	To Distillery for Re-distillation.	Legal Allowance.	Other.				
Galls.	Galls.	Galls.	Galls.	Galls.	Galls.	Galls.	Galls.
2,719,361·19	1,118,526·68	124,004·37	12,626·88	275,173·84	†63,684·95 332,345·58	14,702,153·79	20,832,903·17
374,816·87	41·27	4,428·42	619·21	122·49	97,820·77	1,974,810·40	3,831,333·78
795·72				14·98	9,243·46	17,321·93	108,715·26
4,519·00				204·58		7,191·13	46,335·34
8,418·77				18·05	2,858·46	68,368·25	426,247·92
39·60						14,246·35	72,002·99
12,294·16			68·91	2,371·48	8,231·18	238,047·13	416,739·22
						3,668·15	9,965·67
						8,612·54	8,612·54
3,120,245·31	1,118,567·95	128,432·79	13,315·00	277,905·42	†63,684·95 450,499·45	17,034,419·67	25,752,855·89
2,077,372·65	1,007,087·92	109,101·34	9,538·45	298,727·76	*56,854·81 259,581·58	15,734,757·88	20,849,515·
417,974·26		5,006·61	1,536·56	374·21	87,141·36	2,024,292·69	3,657,394·1
236·69				55·83	9,424·82	15,947·84	93,968·8
5,027·90				177·86		7,255·62	40,900·89
11,970·51				40·44	10,844·48	88,130·00	431,816·31
						23,906·74	83,676·81
5,051·69	47·68	487·74		4,142·07	5,055·27	308,083·80	457,933·39
				75·35		2,564·16	6,108·35
						8,612·54	8,612·54
2,517,633·70	1,007,135·60	114,595·69	11,075·01	303,593·52	*56,854·81 372,047·51	18,213,551·27	25,629,926·56

†Used in the manufacture of Methylated Spirits at the Government Warehouse, Ottawa.

	1906.	1907.
Total duty collected ex-manufactory and ex-warehouse	$ 6,792,837 58	$ 5,805,304 48
License fees	3,062 50	2,437 50
	$ 3,795,900 08	$ 5,807,741 98

W. J. GERALD,
Deputy Minister.

APPENDIX A.—*Continued.*—MALT.

No. 6.—RETURN of Manufactures for the nine months ended March 31, 1907.

DIVISIONS.	LICENSES.		Grain Steeped.	Grain used in Malt Produced.	MALT.		Total Duty Collected ex-manufactory, including License Fees.
	No.	Fees.			Manufactured.	Warehoused.	
		$ cts.	Lbs.	Lbs-	Lbs.	Lbs.	$ cts.
Belleville, Ont....	1	37 50	291,396	273,536	209,994	209,994	37 50
Brantford, " ...	1	37 50	416,003	390,517	314,636	314,636	37 50
Guelph, " ...	5	450 00	5,816,976	5,489,597	4,388,674	4,388,674	450 00
Hamilton, " ...	2	262 50	4,719,137	4,412,717	3,553,554	3,553,554	262 50
Kingston, " ...	1	37 50	340,590	298,879	239,430	239,430	37 50
London, " ...	3	337 50	5,278,317	4,893,746	3,842,460	3,842,460	337 50
Ottawa, " ...	1	75 00	684,140	645,000	510,820	510,820	75 00
Owen Sound, Ont..	1	150 00	2,888,420	2,813,420	2,231,748	2,231,748	150 00
Perth, " ..	2	75 00	292,607	272,007	224,720	224,720	75 00
Peterborough, " ..	2	187 50	1,858,945	1,839,185	1,436,293	1,436,293	187 50
Prescott, " ..	4	225 00	1,277,480	1,170,800	912,923	912,923	225 00
St. Catharines, " ..	2	75 00	587,793	534,158	426,630	426,630	75 00
Stratford, " ..	1	150 00	6,331,000	5,957,000	4,727,700	4,727,700	150 00
Toronto. " ..	10	1,050 00	18,316,369	16,927,100	13,181,698	13,181,698	1,050 00
Windsor " ..	1	150 00	3,792,000	3,552,000	2,909,740	2,909,740	150 00
Totals.....	37	3,300 00	52,891,173	49,469,662	39,111,020	39,111,020	3,300 00
Montreal, Que.....	4	600 00	32,407,710	31,353,310	25,011,438	25,011,438	600 00
Quebec, "	1	112 50	1,132,325	1,031,766	822,074	822,074	112 50
Totals.	5	712 50	33,540,035	32,385,076	25,833,512	25,833,512	712 50
Halifax, N.S.....	1	112 50	542,801	487,784	389,026	389,026	112 50
Winnipeg, Man.. .	3	412 50	13,916,956	13,345,796	10,832,508	10,832,508	412 50
Calgary, Alta.....	4	300 00	3,964,325	3,707,155	3,005,638	3,005,638	300 00
Victoria, B.C.....	1	37 50	649,648	650,615	510,807	510,807	37 50
Grand Totals ..	51	4,875 00	105,504,938	100,046,088	79,682,511	79,682,511	4,875 00

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

W. J. GERALD,
Deputy Minister.

SESSIONAL PAPER No. 12

APPENDIX A.—*Continued*—MALT.

No. 7.—COMPARATIVE STATEMENT of Manufactures for the Fiscal Year ended June 30, 1906, and the nine months ended March 31, 1907.

PROVINCES.	LICENSES.		Grain Steeped.	Grain used in Malt produced.	MALT.		Total Duty collected ex Manufactory, including License Fees.
	No.	Fees.			Manufactured.	Warehoused.	
1906.		$ cts.	Lbs.	Lbs.	Lbs.	Lbs.	$ cts.
Ontario	37	4,350 00		62,474,529	49,332,252	49,332,252	4,350 00
Quebec	5	950 00		43,366,129	34,803,081	34,803,081	950 00
Nova Scotia	1	150 00		631,626	503,468	503,468	150 00
Manitoba	3	450 00		2,676,590	2,174,002	2,174,002	450 00
Alberta	4	400 00		3,534,481	2,864,867	2,864,867	400 00
British Columbia	1	50 00		519,386	411,903	411,903	50 00
Totals	51	6,350 00		113,202,741	90,089,573	90,089,573	6,350 00
1907.							
Ontario	37	3,300 00	52,891,173	49,469,662	39,111,020	39,111,020	3,300 00
Quebec	5	712 50	33,540,035	32,385,076	25,833,512	25,833,512	712 50
Nova Scotia	1	112 50	542,801	487,784	389,026	389,026	112 50
Manitoba	3	412 50	13,916,956	13,345,796	10,832,508	10,832,508	412 50
Alberta	4	300 00	3,964,325	3,707,155	3,005,638	3,005,638	300 00
British Columbia	1	37 50	649,648	650,615	510,807	510,807	37 50
Totals	51	4,875 00	105,504,938	100,046,088	79,682,511	79,682,511	4,875 00

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

W. J. GERALD,
Deputy Minister.

APPENDIX A.—*Continued.*—MALT.

DR. No. 8.—WAREHOUSE RETURN for

Remaining in Warehouse from last year.	Warehoused	Increases	Received from other Divisions.	Imported.	Totals.	DIVISIONS.
Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	
39,129	209,994	2,132	399,815		651,070	....Belleville, Ont.....
196,933	314,636	5,966	285,600	5,000	808,135	....Brantford " .....
2,424,258	4,388,674	68,906	1,672,270		8,554,108	... Guelph " .....
1,184,618	3,553,554	44,273	168,000		4,950,445	....Hamilton " .....
195,612	239,430	5,642	160,000		600,684	....Kingston " .....
2,562,710	3,842,460	46,724	134,230	1,359	6,587,483	....London " .....
231,300	510,829	11,900	283,868		1,037,888	....Ottawa " .....
1,051,300	2,231,748		488,570		3,771,618	....Owen Sound " .....
87,943	224,720	1,826	467,000		781,489	....Perth " .....
634,575	1,436,293	46,583	116,000		2,233,451	...Peterborough " .....
45,960			200,000		245,960	....Port Arthur " .....
520,133	912,923	10,684			1,443,740	..Prescott " .....
196,490	426,630	4,696	540,000		1,167,816	....St. Catharines " .....
1,773,012	4,727,700	26,146	528,000		7,054,858	....Stratford " .....
7,443,088	13,181,698	210,690	2,181,200	22,500	23,039,176	....Toronto " .....
2,609,180	2,909,740	22,205	385,000	2,205	5,928,330	....Windsor " .....
21,196,241	39,111,020	508,373	8,009,553	31,064	68,856,251	.....Totals.....
47,386		15,687	1,027,000		1,090,073	....Joliette, Que.....
9,509,802	25,011,438	137,442	253,317	7,400	34,919,399	....Montreal " .....
40,000	822,074		2,950,034		3,812,108	....Quebec " .....
			130,000		130,000	....St. Hyacinthe " .....
53,400			880,000		933,400	... Sherbrooke " .....
9,650,588	25,833,512	153,129	5,240,351	7,400	40,884,980	..... Totals.....
80,000			1,200,000		1,280,000	....St. John, N.B.....
42,942	389,026	1,534	2,058,800		2,492,302	....Halifax, N.S.....
807,682	10,832,568	4,561	214,000	95,959	11,954,710	...Winnipeg, Man.....
469,402	3,005,638	6,425	878,000	59,865	4,419,330	....Calgary, Alta.....
268,595			1,874,180	667,448	2,810,223	....Vancouver, B.C .....
45,779	510,807		520,000	110,443	1,187,029	....Victoria, B.C.. .....
314,374	510,807		2,394,180	777,891	3,997,252	..... Totals.. .....
57,434				84,136	141,570	....Dawson, Y.T.....
32,618,663	79,682,511	674,022	19,994,884	1,056,315	134,026,395	.....Grand Totals.

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

the nine months ended March 31, 1907. Cr.

Entered for Consumption at 1½ and 2½ cents per lb.		Removed to other Divisions.	Exported.	Free.	Written off.	Remaining in Warehouse.	Totals.
Lbs.	$ cts.	Lbs.	Lbs.		Lbs.	Lbs.	Lbs.
567,047	7,605 71					144,023	651,070
624,981	9,424 71					183,154	808,135
4,807,422	72,111 33	542,000			108	3,204,578	8,554,108
3,081,060	46,215 90	435,600				1,433,785	4,950,445
358,698	5,380 47					241,986	600,684
3,945,543	59,183 46					2,641,940	6,587,483
690,236	10,353 54					347,652	1,037,888
807,042	12,105 65	1,399,684	172,800			1,392,092	3,771,618
343,100	5,146 50			277,359	14,353	146,677	781,489
941,939	14,129 09	520,000				771,512	2,233,451
205,960	3,089 40					40,000	245,960
847,654	12,714 82					596,086	1,443,740
1,024,736	15,371 04					143,080	1,167,816
1,400,240	21,003 60	3,684,170				1,973,448	7,054,858
13,000,162	195,227 43	1,076,000				8,963,014	23,039,176
3,092,805	46,396 28			1,070,000		1,765,525	5,928,330
35,678,625	535,458 93	7,654,454	172,800	1,347,359	14,461	23,988,552	68,856,251
				1,043,225		46,848	1,090,073
14,261,195	213,991 93	8,808,250	130,750			11,719,204	34,919,399
3,772,108	56,581 51					40,000	3,812,108
130,000	1,950 00						130,000
863,700	12,955 50					69,700	933,400
19,027,003	285,478 94	8,808,250	130,750	1,043,225		11,875,752	40,884,980
1,160,000	17,400 00					120,000	1,280,000
2,253,192	33,797 88					239,110	2,492,302
4,655,748	69,836 22	3,526,000				3,772,962	11,954,710
2,758,476	41,377 20	6,180			17,530	1,637,144	4,419,330
2,427,391	36,416 82					382,832	2,810,223
1,147,029	17,205 41					40,000	1,187,029
3,574,420	53,616 23					422,832	3,997,252
69,407	1,041 19					72,163	141,570
69,176,871	1,038,006 59	19,994,884	303,550	2,390,584	31,991	42,128,515	134,026,395

W. J. GERALD,
Deputy Minister.

APPENDIX A.—*Continued*—MALT.

DR. No. 9.—COMPARATIVE STATEMENT of Warehouse Returns for

Remaining in Warehouse from last year.	Warehoused	Increases.	Received from other Divisions.	Imported.	Totals.	Provinces.
Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	1906.
21,083,108	49,332,252	468,609	9,142,890	86,783	80,113,642	Ontario
5,307,995	34,803,081	143,572	7,221,197	11,176	47,487,021	Quebec
36,000			1,652,000		1,688,000	New Brunswick
52,714	503,468	4,404	2,229,000	1,120	2,790,706	Nova Scotia
260,924	2,174,002	18,168	2,470,000	981,800	5,904,894	Manitoba
706,223	2,864,867	15,066			3,586,156	Alberta
301,257	411,903		1,689,449	2,284,363	4,686,972	British Columbia
137,109				104,955	242,064	Yukon Territory
27,885,330	90,089,573	649,819	24,404,536	3,470,197	146,499,455	Totals
						1907.
21,196,241	39,111,020	508,373	8,009,553	31,064	68,856,251	Ontario
9,650,588	25,833,512	153,129	5,240,351	7,400	40,884,980	Quebec
80,000			1,200,000		1,280,000	New Brunswick
42,942	389,026	1,534	2,058,800		2,492,302	Nova Scotia
807,682	10,832,568	4,561	214,000	95,959	11,954,710	Manitoba
469,402	3,005,638	6,425	878,000	59,865	4,419,330	Alberta
314,374	510,807		2,394,180	777,891	3,997,252	British Columbia
57,434				84,136	141,570	Yukon Territory
32,618,663	79,682,511	674,022	19,994,884	1,056,315	134,026,395	Totals

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

the Fiscal Year ended June 30, 1906 and the nine months ended March 31, 1907. Cr.

Entered for Consumption at 1½ and 2½ cents per lb.		Removed to other Divsions.	Exported.	Free.	Written off.	Remaining in Warehouse.	Totals.
Lbs.	$ cts.	Lbs.	Lbs.	Lbs.	Lbs.	$ cts.	Lbs.
45,153,957	677,786 04	11,618,510	249,600	607,226	288,108	21,196,241	80,113,642
23,529,531	353,054 57	12,717,577	275,200	1,314,125	.....	9,650,588	47,487,021
1,608,000	24,120 00	.....	.....	.....	.....	80,000	1,688,000
2,744,164	41,173 66	.....	3,600	.....	.....	42,942	2,790,706
5,070,616	76,064 54	.....	.....	.....	26,596	807,682	5,904,894
3,050,140	45,752 09	60,430	.....	.....	6,184	469,402	3,586,156
4,358,064	65,370 85	8,019	.....	.....	6,515	314,374	4,686,972
184,630	2,771 38	.....	.....	.....	.....	57,434	242,064
85,699,102	1,286,093 13	24,404,536	528,400	2,921,351	327,403	32,618,663	146,499,455
35,678,625	535,458 93	7,654,454	172,800	1,347,359	14,461	23,988,552	68,856,251
19,027,003	285,478 94	8,808,250	130,750	1,043,225	.....	11,875,752	40,884,980
1,160,000	17,400 00	.....	.....	.....	.....	120,000	1,280,000
2,253,192	33,797 88	.....	.....	.....	.....	239,110	2,492,302
4,655,748	69,836 22	3,526,000	.....	.....	.....	3,772,962	11,954,710
2,758,476	41,377 20	6,180	.....	.....	17,530	1,637,144	4,419,330
3,574,420	53,616 23	.....	.....	.....	.....	422,832	3,997,252
69,407	1,041 19	.....	.....	.....	.....	72,163	141,570
69,176,871	1,038,006 59	19,994,884	303,550	2,390,584	31,991	42,128,515	134,026,395

	1906-	1907.
Total duty collected ex-manufactory and ex-warehouse	$1,286,593 13	$1,038,006 59
License fees	6,350 00	4,875 00
	$1,292,443 13	$1,042,881 59

W. J. GERALD,
Deputy Minister.

APPENDIX A.—*Continued*—MALT LIQUOR.

No. 10.—RETURN of Manufactures for the nine months ended March 31, 1907.

DIVISIONS.	LICENSES. No.	LICENSES. Fees.	Malt used.	Other commodities used.	Malt Liquor manufactured.	Malt Liquor exported.	Total Duty collected, including License Fees.
		$ cts.	Lbs.	Lbs.	Galls.	Galls.	$ cts.
Belleville, Ont.	1	37 50	138,972	.....	67,839	.....	37 50
Brantford "	3	112 50	627,941	.....	258,617	.....	112 50
Guelph "	8	300 00	4,376,110	.....	1,985,047	.....	300 00
Hamilton "	2	75 00	2,753,390	.....	1,365,295	.....	75 00
Kingston "	2	75 00	352,648	.....	107,700	.....	75 00
London "	6	225 00	4,223,608	.....	1,676,192	1,372	225 00
Ottawa "	3	112 50	1,059,769	.....	415,531	.....	112 50
Owen Sound "	5	187 50	697,160	.....	302,880	.....	187 50
Perth "	1	37 50	347,788	.....	141,558	.....	37 50
Peterborough "	3	112 50	950,943	.....	339,756	.....	112 50
Port Arthur (*a*) "	1	50 00	199,031	.....	84,200	.....	50 00
Prescott "	3	112 50	666,500	.....	227,610	.....	112 50
St. Catharines "	2	75 00	1,026,630	.....	398,360	.....	75 00
Stratford "	3	112 50	397,614	.....	192,000	.....	112 50
Toronto "	14	525 00	11,681,615	.....	4,889,756	.....	525 00
Windsor "	2	75 00	1,541,500	.....	730,952	.....	75 00
Totals.	59	2,225 00	31,041,219	.....	13,182,693	1,372	2,225 00
Montreal, Que	10	375 00	13,849,998	.....	5,813,379	.....	375 00
Quebec "	5	187 50	3,501,647	.....	1,411,825	.....	187 50
Sherbrooke "	1	37 50	863,700	.....	436,810	.....	37 50
Totals.	16	600 00	18,215,345	.....	7,662,014	.....	600 00
St. John, N.B.	2	75 00	1,103,026	.....	422,870	.....	75 00
Halifax, N.S.	3	112 50	2,249,370	.....	754,360	963	112 50
Winnipeg, Man.	10	356 25	4,508,105	6,656	1,912,164	.....	692 55
Calgary, N.W.T.	4	150 00	2,646,318	.....	1,260,208	.....	150 00
Vancouver, B.C.	26	975 00	2,395,831	9,000	915,525	.....	1,804 80
Victoria, B.C.	6	225 00	1,088,511	11,250	371,408	.....	1,252 80
Totals.	32	1,200 00	3,484,342	20,250	1,286,933	.....	3,057 60
Dawson, Y.T (*b*)			69,340	.....	24,589	.....	.....
Grand Totals	126	4,718 75	63,317,065	26,906	26,505,831	2,335	6,912 65

a Fee for 1907-08. *b* License paid in 1905-06.

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

W. J. GERALD,
Deputy Minister.

SESSIONAL PAPER No. 12

APPENDIX A.—*Continued*—MALT LIQUOR.

No. 11.—Comparative Statement of Manufactures for the Fiscal Year ended June 30, 1906 and the nine m nths ended March 31, 1907.

Provinces.	Licenses. No.	Licenses. Fees.	Malt used.	Other commodities used.	Malt Liquor manufactured.	Malt Liquor exported, and used by H. M. Army and Navy.	Total Duty collected, including License Fees.
1906.		$ cts.	Lbs.	Lbs.	Galls.	Galls.	$ cts.
Ontario	60	3,037 50	39,794,847		16,891,345	2,696	3,037 50
Quebec	15	725 00	22,717,862		9,626,740		725 00
New Brunswick	2	100 00	1,621,913		604,824		100 00
Nova Scotia	3	150 00	2,743,836		959,930	124,818	150 00
Manitoba	11	550 00	5,127,584	4,342	2,254,505		844 80
Alberta	4	200 00	3,025,811		1,189,742		200 00
British Columbia	33	1,625 00	4,829,276	29,363	1,652,170	46,097	4,908 40
Yukon Territory	1	37 50	184,630		71,381		37 50
Totals	129	6,425 00	80,045,759	33,705	33,250,637	173,611	10,003 20
1907.							
Ontario	59	2,225 00	31,041,219		13,182,693	1,372	2,225 00
Quebec	16	600 00	18,215,345		7,662,014		600 00
New Brunswick	2	75 00	1,103,026		422,870		75 00
Nova Scotia	3	112 50	2,249,370		754,360	963	112 50
Manitoba	10	356 25	4,508,105	6,656	1,912,164		692 55
Alberta	4	150 00	2,646,318		1,260,208		150 00
British Columbia	32	1,200 00	3,484,342	20,250	1,286,933		3,057 60
Yukon Territory (*a*)			69,340		24,589		
Totals	126	4,718 75	63,317,065	26,906	26,505,831	2,335	6,912 65

	1906.	1907.
	Galls.	Galls.
Exported	2,788	2,335
Used by H. M. Army and Navy	170,823	
Totals	173,611	2,335

(*a*) License paid in 1905-06.

Inland Revenue Department,
Ottawa, May 31, 1907.

W. J. GERALD,
Deputy Minister.

APPENDIX A—Continued—TOBACCO.

No. 12.—Return of Manufactures for the nine months ended March 31, 1907.

Divisions.	Licenses: Number	Licenses: Fees	Total Weight of Raw Leaf Tobacco, etc.	Tobacco: [illegible]	Tobacco: Paid Duty	Tobacco: [illegible]	Cigarettes: [illegible] per M	Cigarettes: Paid Duty	Cigarettes: Warehoused	Canadian Tobacco: At 5 cents per lb	Canadian Tobacco: Paid Duty	Canadian Tobacco: Warehoused	Canadian Cigarettes: At [illegible] per M	Canadian Cigarettes: Paid Duty
		$ cts.	Lbs.	Lbs.	Lbs.	[illegible]	No.	No.	No.	Lbs.	Lbs.	Lbs.	No.	No.
Hamilton, Ont.	1	56 25	1,065,669	1,020,[illegible]	257,[illegible]		[illegible]41,800	6,336,800	5,000					
Toronto	3	161 25	[illegible]	[illegible],462	3,[illegible]									
Windsor	2	75 00	177,[illegible]							186,783	186,783			
Total	6	292 50	[illegible]	1,024,258	[illegible],052		[illegible]41,800	6,336,800	5,000	186,783	186,783			
[illegible]		[illegible]	[illegible]							94,184	94,184			
[illegible]	[illegible]	[illegible]	[illegible]	6,588,371	[illegible]	[illegible]	[illegible]467,[illegible] / [illegible]	248,466,410 / 1,296,350	1,001,500	373,[illegible]	367,720	5,601	[illegible]	22,700
[illegible]	1	[illegible]	[illegible]	26,[illegible]	24,037		[illegible],265,700	503,000	762,700	715,735	715,735	200		
[illegible]	1	140 00	1,406,089							826,288	826,288			
[illegible]	1	[illegible]	[illegible]							4,100	4,100			
[illegible]	[illegible]	[illegible]	[illegible]	6,614,976	[illegible]	[illegible]	[illegible] / 1,296,350	248,969,410 / 1,296,350	1,764,200	2,013,631	2,007,827	5,804	[illegible]	[illegible]
[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]				14,173	14,173			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]				44,445	44,445			
Winnipeg, Man.	1	[illegible]	2,066	10	10									
Grand Total	[illegible]	[illegible]	[illegible]	7,73[illegible]	1,001,614	[illegible]	[illegible],410 / [illegible]	[illegible] / 1,296,350	1,769,200	[illegible]	2,253,229	5,804	[illegible]	22,700

* Cigarettes at $3 per M

Inland Revenue Department,
Ottawa, May 15, 1907.

W. J. Gerald,
Deputy Minister.

No. [illegible]—Comparative Statement of Manufactures for the Fiscal Year ended June 30, 1906 and the nine months ended March 31, 1907

Provinces	Tobacco Weighed Raw Leaf Tobacco used in Manufactures	Cigarettes			Canadian Tobacco			Canadian Cigarettes		Combination Tobacco			Cigarettes Exported			Canadian Tobacco Exported			Raw Leaf Tobacco Exported
		Paid Duty	Ware housed	At $3 per M	Paid Duty	Ware housed	At [illegible] per lb	Paid Duty	Ware housed	At $1.50 per M	Paid Duty	At 5c per lb	Paid Duty	Ware housed	At $3 per M	Paid Duty	Ware housed	At [illegible] per lb	Paid Duty	Ware housed	
	Lbs.		Lbs.	No.	No.	No.	Lbs.	Lbs.	Lbs.	No.	No.	Lbs.	Lbs.	Lbs.	No.	No.	No.	Lbs.	Lbs.	Lbs.	Lbs.
[illegible]	[illegible]	[illegible]	[illegible]	5,907,100	5,907,100	27,500	246,924	246,924				268,403	94,242	174,061							
[illegible]	[illegible]	[illegible]	[illegible]	2,144,227,700	251,048,000	3,374,700	2,896,097	2,865,830	34,267			1,562,677	1,049,364	513,413	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	1,525,500	1,525,500																
[illegible]	[illegible]	[illegible]	[illegible]	1,426,754	1,426,100	403,450															
[illegible]	[illegible]	[illegible]	[illegible]				11,290	8,932	2,358			10,655	10,655								
[illegible]	[illegible]	[illegible]	[illegible]				25,014	25,014				3,437	2,720	717							
[illegible]	[illegible]	[illegible]	[illegible]	2,151,787,354	258,183,700	1,806,650	3,178,725	3,142,100	36,625			1,845,272	1,156,781	688,191	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	1,525,500	1,525,500																
[illegible]	[illegible]	[illegible]	[illegible]	12,000	1,326,000	7,000	186,783	186,783				201,196	80,941	119,827							
[illegible]	[illegible]	[illegible]	[illegible]	2,144,227,700	251,048,000	3,374,700	2,012,631	2,007,837	5,804	22,700	22,700	1,224,909	880,773	338,229	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	1,525,500	1,525,500	1,764,200															
[illegible]	[illegible]	[illegible]	[illegible]				14,157	14,153				18,291	18,291								
[illegible]	[illegible]	[illegible]	[illegible]				44,445	44,445				7,000	7,000								
[illegible]	[illegible]	[illegible]	[illegible]	2,156,439,200	257,900,500	1,793,200	2,929,035	2,923,229	5,804	22,700	22,700	1,450,487	1,001,455	458,056	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
				1,525,500	1,525,500																

* Cigars [illegible] per M

No. 14 WAREHOUSE RETURN for the nine months ended March 31, 1907.

DR. No. 16.—WAREHOUSE RETURN for the nine months ended March 31, 1907. CR.

Remaining in Warehouse from last year.	Imported.	Warehoused ex-Factory.	Received from other Divisions.	Totals.	Divisions.	Entered for Consumption.		Removed to other Divisions.	Exported.	Written off.	Taken for Horticultural purposes and destroyed.	Re-entered for Manufacture.	Remaining in Warehouse.	Totals.
						Quantity.	Duty.							
Std. lbs.	Std. lbs.	Std. lbs.	Std. lbs.	Std. lbs.		Std. lbs.	$ cts.	Std. lbs.	Std. lbs.	Std. lbs.	Std. lbs.	Std. lbs.	Std. lbs.	Std. lbs.
2,843	1,596	3,615	4,629	12,683	Belleville, Ont...	5,374	537 40	6,738	.....	.....	.....	.....	571	12,683
45,774	101,876	6,580	2,120	156,350	Brantford, " ..	83,025	8,302 50	181	6,627	.....	.....	61	66,456	156,350
22,047	49,951⅝	3,465	800	76,263⅝	Guelph, " ..	42,960¾	4,347 56	99	3,465	.....	.....	246	29,493	76,263¾
1,639,393½	904,644¼	205,002	5,820½	2,754,860	Hamilton, " ..	1,380,983	138,325 99	10,065	268,670	..	....	2,736	1,092,406	2,754,860
50,799	68,014	7,045	8,902	134,760	Kingston, " ..	49,865	4,996 82	7,507	7,045	...	.....	149	70,194	134,760
240,543½	565,574	57,128	12,650	875,895½	London, " ..	526,306½	53,890 70	4,783	61,305	..	.....	12,041	271,460	875,895½
.....	8,850	.....	2,620	11,470	Ottawa, " ..	5,700	599 92	.....	140	....	426	991	4,213	11,470
2,343	13,070	.....	.....	15,413	Owen Sound, " ..	12,790½	1,279 05	699	.....	....	....	.....	1,923½	15,413
1,028	244	429	2,141¾	3,842¼	Perth, " ..	1,960¾	196 04	280	... .	....	.....	.....	1,602	3,842¼
1,080¼	2,831	....	.....	3,911¼	Peterborough, " ..	2,472¾	247 23	... ...	.....	.....	.....	.. ....	1,439	3,911¼
2,759	5,175	950	513	9,397	Prescott, " ..	6,106	610 60	950	.....	.....	.....	.....	2,341	9,397
12,593	24,471	562	3,513	41,139	St. Catharines, " ..	18,543	1,858 26	997	287	...	.....	4,278	17,034	41,139
16,858	22,853	.....	.. ...	39,711	Stratford, " ..	20,956	2,095 60	1,785	.....	.....	.....	.....	16,970	39,711
282,232	478,465	75,314	9,183½	845,194½	Toronto, " ..	428,527½	46,723 35	8,163	67,169	....	650	5,677	335,008	845,194½
21,224	22,711	511	1,889	46,335	Windsor, " ..	22,613	2,343 90	140	6,794	.....	.....	.....	16,788	46,335
2,341,517¼	2,270,326	360,601	54,781	5,027,225¼	....Totals.....	2,608,182¾	266,354 92	42,387	421,502	.....	1,076	26,179	1,927,898½	5,027,225¼
3,250½	1,050	.....	5,362¾	9,663¼	Joliette, Que...	6,185¼	1,381 06	1,668	.....	...	..	878	932	9,663¼
4,957,475	10,287.140	238,367	29,567¼	15,512,549¼	Montreal, " ..	7,978,079½	823,331 05	91,341	189,759	240	150	28,112	7,224,867¾	15,512,549¼
57,898½	226,178½	6,240	37,223	327,540	Quebec, " ..	199,437	34,668 88	100	3,038	.....	.....	35,952	89,013	327,540
11,499	4,556	100	3,879¼	20,034¼	St. Hyacinthe, " ..	10,009¾	1,183 65	100	.....	.....	...	267	9,658	20,034¼
146,555	237 516	20,907	14,534½	419,512½	Sherbooke, " ..	185,248¾	29,499 97	6,165	17,080	.....	.....	6,541	204,478	419,512½
712	2,707	.. ...	1,958	5,377	Three Rivers " ..	3,564	568 89	275	.....	.....	.....	253	1,285	5,377
5,177,390	10,759,147½	265,614	92,524¾	16,294,676¼	... Totals..... . .	8,382,523½	890,633 50	99,649	209,877	240	150	72,003	7,530,233¾	16,294,676¼

25,905¼	13,575¾	5,222	716¾	45,419¾	St. John, N.B	23,807½	2,929 68	.....	4,925	.....	.....	.....	16,687¼	45,419¾
1,856	12,304	.....	150	14,310	Halifax, N.S.....	9,267	926 70	.....	1,484	.....	.....	.....	3,559	14,310
20,224	8,713	.....	100	29,037	Pictou, "	15,535	2,453 70	.....	.....	.....	.....	.....	13,502	29,037
22,080	21,017	.....	250	43,347	...Totals	24,802	3,380 40	.....	1,484	.....	.....	.....	17,061	43,347
62,209	60,301	.....	....	122,510	Charlottetown, P.E.I	75,324	7,532 40	.....	..... .	.....	.....	.....	47,186	122,510
60,043¾	154,760	11,758	8,106	234,667¾	Winnipeg, Man.....	133,913¾	13,448 58	15,038	10,214	.. ...	118	134	75,250	234,667¾
5,593	22,340¾	3,422	737	32,092¾	Calgary, Alta.....	21,524¼	2,152 42	153½	3,422	.....	.....	120	6,873	32,092¾
23,610	100,933	9,788	1,232	135,593	Vancouver, B.C...	85,535	8,592 54	2,398	7,504	... ..	.....	.....	40,156	135,593
8,295	31,264	1,325	3,220	44,104	Victoria "	30,718	3,098 04	1,942	.....	.....	.....	104	11,340	44,104
31,935	132,197	11,113	4,452	179,697	....Totals.....	116,253	11,690 58	4,340	7,504	.... .	.....	104	51,496	179,697
7,726,673¼	13,433,665	657,730	161,567½	21,979,635¾	...Grand Totals ...	14,386,330¾	1,198,122 48	161,567½	658,928	240	1,344	98,540	9,672,685½	21,979,635¾

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

W. J. GERALD,
Deputy Minister.

APPENDIX A.—*Continued*—RAW LEAF TOBACCO, INCLUDING STEMS, SCRAPS AND CUTTINGS.

No. 17.—Comparative Statement of Warehouse Returns for the Fiscal Year ended June 30, 1906 and the nine months ended March 31, 1907.

Remaining in Warehouse from last year.	Imported.	Warehoused ex-Factory.	Received from other Divisions.	Totals.	Provinces.	Entered for Consumption.		Removed to other Divisions.	Exported.	Written off.	Taken for Horticultural purposes, and destroyed.	Re-entered for Manufacture.	Remaining in Warehouse.	Totals.
						Quantity.	Duty.							
Std. lbs.	Std. lbs.	Std. lbs.	Std. lbs.	Std. lbs.	1906.	Std. lbs.	$ cts.	Std. lbs.	Std. lbs.	S. lbs.	S. lbs.	Std. lbs.	Std. lbs.	Std. lbs.
1,971,916½	3,549,286½	497,487	81,667½	6,100,357½	Ontario	3,156,673½	324,150 22	69,163	469,916	.....	10,646	52,442	2,341,517¼	6,100,357½
5,257,384	9,884,423¾	276,639½	132,371½	15,550,818½	Quebec	9,933,283	1,056,962 06	142,348¾	184,633¾	..	25,746	87,417	5,177,390	15,550,818½
47,612	27,913	6,884	2,389	84,798	New Brunswick	33,478¾	4,392 12	11,720	3,862	6,060	150	3,622	25,905¼	84,798
22,332	44,211	340	1,355½	68,238½	Nova Scotia	46,116¼	5,060 23	.....	.....	.....	42	.....	22,080	68,238½
45,386	161,479	.....	.....	206,865	P. E. Island	143,345	14,633 86	.....	.....	.....	1,311	.....	62,209	206,865
64,658	168,038	21,506	12,277¼	266,479½	Manitoba	183,729½	18,414 51	5,052	16,830	...	213	611	60,043¾	266,479½
4,719	20,435½	672	909¼	26,735¾	Alberta	19,485¾	1,948 60	1,501	, 156	....	....	....	5,593	26,735¾
46,761	112,429½	15,256	3,109¼	177,555¾	British Columbia	122,508¾	12,334 07	4,294	18,178	.....	191	449	31,935	177,555¾
7,460,768½	13,968,216¼	818,784½	234,078¾	22,481,848	Totals	13,638,620¼	1,437,895 67	234,078¾	693,575¾	6,060	38,299	144,541	7,726,673¼	22,481,848
					1907.									
2,341,517¼	2,270,326	360,601	54,781	5,027,225¼	Ontario	2,608,182¾	266,354 92	42,387	421,502	.....	1,076	26,179	1,927,898½	5,027,225¼
5,177,390	10,759,147½	265,614	92,524¾	16,294,676¼	Quebec	8,382,523½	890,633 50	99,649	209,877	240	150	72,003	7,530,233¾	16,294,676¼
25,905¼	13,575¾	5,222	716¾	45,419¾	New Brunswick	23,807½	2,929 68	... ...	4,925	.....	.....	... ...	16,687¼	45,419¾
22,080	21,017	.....	250	43,347	Nova Scotia	24,802	3,380 40	.. ....	1,484	.....	.....	.....	17,061	43,347
62,209	60,301	.....	.....	122,510	P. E. Island	75,324	7,532 40	.....	.....	.....	.....	.....	47,186	122,510
60,043¾	154,760	11,758	8,106	234,667¾	Manitoba	133 913¾	13,448 58	15,038	10,214	.. ..	118	134	75,250	234,667¾
5,593	22,340¾	3,422	737	32,092¾	Alberta	21,524¼	2,152 42	153½	3,422	.....	.....	120	6,873	32,092¾
31,935	132,197	11,113	4,452	179,697	British Columbia	116,253	11,690 58	4,340	7,504	.....	....	104	51,496	179,697
7,726,673¼	13,433,665	657,730	161,567½	21,979,635¾	Totals	11,386,330¾	1,198,122 48	161,567½	658,928	240	1,344	98,540	9,672,685½	21,979,635¾

Inland Revenue Department,
Ottawa, May 31, 1907.

W. J. GERALD,
Deputy Minister.

SESSIONAL PAPER No. 12

APPENDIX A.—*Continued*—CANADA TWIST TOBACCO.

No. 18.—STATEMENT of Revenue collected from Canada Twist Tobacco for the nine months ended March 31, 1907.

DIVISIONS.	LICENSES.		Canada Twist, at 5 cts. per lb.	Total Duty Collected, including License Fees.
	No.	Fees.		
		$ cts.	Lbs.	$ cts.
Cornwall, Ont	1	1 50		1 50
Ottawa "	9	13 50	1,690	98 00
Prescott "	1	1 50	260	14 50
Windsor "	1	1 00	80	5 00
Totals	12	17 50	2,030	119 00
Joliette, Que	1	1 00	200	11 00
Montreal "	34	51 00	13,762	745 10
Totals	35	52 00	13,962	756 10
Grand Totals	47	69 50	15,992	875 10

W. J. GERALD,
Deputy Minister.

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

CANADA TWIST TOBACCO.

No. 19.—COMPARATIVE STATEMENT for the Fiscal Year ended June 30, 1906 and the nine months ended March 31, 1907.

YEARS.	PROVINCES.	LICENSES.		Canada Twist, at 5 cts. per lb.	Total Duty Collected, including License Fees.
		No.	Fees.		
			$ cts.	Lbs	$ cts.
1906	Ontario	15	30 00	5,830	321 50
	Quebec	44	85 00	30,510	1,610 50
	Totals	59	115 00	36,340	1,932 00
1907	Ontario	12	17 50	2,030	119 00
	Quebec	35	52 00	13,962	756 10
	Totals	47	69 50	15,992	875 10

W. J. GERALD,
Deputy Minister.

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

APPENDIX A.—*Continued*—CIGARS.

No. 20.—RETURN of Manufactures

DIVISIONS.	LICENSES.		Total Raw Leaf Tobacco and other Materials actually used.	DEFICIENCIES PAYING DUTY.		CIGARS AT $7 PER THOUSAND.			CIGARS AT
	No.	Fees.		Foreign.	Combination.	Produced.	Paid Duty.	Warehoused	Produced.
		$ cts.	Lbs.	No.	No.	No.	No.	No.	No.
Belleville, Ont	1	56 25	4,884						256,000
Brantford "	7	393 75	73,040			1,650	1,650		4,059,680
Guelph "	8	450 00	39,696¾						2,393,725
Hamilton "	13	703 13	160,401	183,373		4,050	4,050		8,038,400
Kingston "	2	112 50	43,580						2,201,725
London "	20	1,125 00	457,955½	150,863		7,200	3,600	3,600	25,609,435
Ottawa "	1	56 25	5,996						358,400
Owen Sound "	1	56 25	12,285¼						574,000
Perth "	1	56 25	1,402¾						68,650
Peterborough, Ont.	2	112 50	2,401¼						153,250
Prescott "	1	56 25	5,063						277,600
St. Catharines "	11	618 75	20,555						1,153,100
Stratford "	3	168 75	20,571						1,144,170
Toronto "	22	1,153 13	336,998½	23,600					18,043,685
Windsor "	8	442 50	24,250						1,262,805
Totals	101	5,561 26	1,209,070¾	357,836		12,900	9,300	3,600	65,594,625
Joliette, Que.	4	191 25	56,922¼						250,900
Montreal "	34	1,876 88	1,040,681¾	20,478		255,780	255,780		52,823,965
Quebec "	6	322 50	106,717						5,219,240
St. Hyacinthe, Que.	6	283 13	38,097¼						1,848,430
Sherbrooke "	6	311 25	121,905½						6,380,275
Three Rivers "	2	105 00	10,880						155,270
Totals	58	3,090 01	1,375,203¾	20,478		255,780	255,780		66,678,080
St. John, N.B.	6	322 50	52,127½		20,581				918,935
Halifax, N.S.	2	112 50	9,044						454,645
Pictou, N.S.	1	56 25	882						50,250
Totals	3	168 75	9,926						504,895
Winnipeg, Man.	13	731 25	117,310¾			14,832	14,832		6,200,580
Calgary, Alberta	4	225 00	18,132¼						903,925
Vancouver, B.C.	15	843 75	71,313			1,950	1,950		4,162,500
Victoria, B.C.	10	555 00	26,107		183				1,393,550
Totals	25	1,398 75	97,420		183	1,950	1,950		5,556,050
Grand Totals	210	11,497 52	2,879,200	378,314	20,764	285,462	281,862	3,600	146,357,090

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

for the nine months ended March 31, 1907.

$6 per Thousand.		Canadian Cigars at $3 per Thousand.			Combination Cigars at $3 per Thousand.			Total Duty collected ex-Manufactory, including License Fees.
Paid Duty.	Warehoused	Produced.	Paid Duty	Warehoused.	Produced.	Paid Duty	Warehoused.	
No.	No.	No.	No.	No.	No.	No.	No.	$ cts.
113,200	142,800							735 45
2,851,120	1,208,560							17,512 02
844,050	1,549,675							5,514 30
3,134,790	4,903,610							20,640 45
444,950	1,756,775							2,782 20
15,964,925	9,644,510							97,844 93
176,100	182,300							1,112 85
297,525	276,475							1,841 40
53,350	15,300							376 35
122,500	30,750							847 50
155,000	122,600							986 25
935,325	217,775							6,230 70
642,170	502,000							4,021 77
14,846,215	3,197,470	180,600	180,600					90,913 82
842,130	420,675				17,750	9,525	8,225	5,523 85
41,423,350	24,171,275	180,600	180,600		17,750	9,525	8,225	256,883 84
121,400	129,500	419,000	263,000	156,000	2,614,550	1,936,550	678,000	7,518 30
28,269,830	24,554,135				114,340	114,340		173,752 21
2,957,355	2,261,885				931,600	662,950	268,650	20,055 48
963,105	880,325				598,870	590,070	8,800	7,861 97
2,936,290	3,443,985	558,570	506,770	51,800	51,400	51,400		19,603 50
58,195	97,075				426,300	316,200	110,100	1,402 77
35,311,175	31,366,905	977,570	769,770	207,800	4,737,060	3,671,510	1,065,550	230,194 23
337,060	581,875				1,860,550	259,550	1,601,000	3,185 25
333,285	121,360							2,112 21
18,150	32,100							165 15
351,435	153,460							2,277 36
3,099,540	3,101,040							19,432 33
553,025	350,900							3,543 15
4,083,450	79,050							25,358 10
1,114,050	279,500				46,100	46,100		7,378 15
5,197,500	358,550				46,100	46,100		32,736 25
86,273,085	60,084,005	1,158,170	950,370	207,800	6,661,460	3,986,685	2,674,775	548,252 41

W. J. GERALD,
Deputy Minister.

APPENDIX A.—*Continued*—CIGARS.

DR. No. 21.—COMPARATIVE STATEMENT of Manufactures for the Fiscal

PROVINCES.	LICENSES.		Total Raw Leaf Tobacco and other materials actually used.	DEFICIENCIES PAYING DUTY.		CIGARS AT $7 PER THOUSAND.			CIGARS
	No.	Fees.		Foreign.	Combination.	Produced.	Paid Duty	Warehoused.	Produced.
1906.		$ cts.	Lbs.	No.	No.	No.	No.	No.	No.
Ontario	106	7,802 50	1,525,644¾	4,040	.....	3,972	3,972	.....	†38,600 82,940,735
Quebec	57	3,922 50	1,590,547	22,836	.....	1,170	1,170	.....	80,034,830
New Brunswick	5	355 00	76,770¼	.....	.....	.....	.....	.....	1,016,205
Nova Scotia	4	262 50	12,157¼	.....	.....	.....	.....	.....	649,930
Manitoba	13	900 00	163,715½	.....	.....	14,997	14,997	.....	8,789,560
Alberta	3	225 00	17,251¾	.....	.....	.....	.....	.....	921,485
British Columbia	24	1,780 00	108,354	2,263	.....	2,844	2,844	.....	5,865,050
Totals	212	15,247 50	3,494,440½	29,139	.....	22,983	22,983	.....	180,217,795 †38,600
1907.									
Ontario	101	5,561 26	1,209,079¾	357,836	.....	12,900	9,300	3,600	65,594,625
Quebec	58	3,090 01	1,375,203¾	20,478	.....	255,780	255,780	.....	66,678,080
New Brunswick	6	322 50	52,127½	.....	20,581	.....	.....	.....	918,935
Nova Scotia	3	168 75	9,926	.....	.....	.....	.....	.....	504,895
Manitoba	13	731 25	117,310¾	.....	.....	14,832	14,832	.....	6,200,580
Alberta	4	225 00	18,132¼	.....	.....	.....	.....	.....	903,925
British Columbia	25	1,398 75	97,420	.....	183	1,950	1,950	.....	5,556,050
Totals	210	11,497 52	2,879,200	378,314	20,764	285,462	281,862	3,600	146,357,090

† Repacked. ‡ Destroyed by fire.

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

Year ended June 30, 1906 and the nine months ended March 31, 1907. Cr.

At $6 per Thousand.		Canadian Cigars at $3 per Thousand.			Combination Cigars at $3 per Thousand.			Total Duty collected ex-Manufactory, including License Fees.
Paid Duty.	Warehoused	Produced.	Paid Duty	Warehoused.	Produced.	Paid Duty	Warehoused.	
No.	No.	No.	No.	No.	No.	No.	No.	$ cts.
38,600 44,708,305	38,232,430	133,350	133,350	.....	46,700	25,425	21,275	276,812 30
40,467,880	39,566,950	897,760	406,230	491,530	5,961,370	‡7,850 4,043,300	1,910,220	260,223 58
308,380	707,825	.....	.....	.....	3,519,000	253,550	3,265,450	2,965 93
390,760	259,170	.....	.....	.....	.....	.....	.....	2,607 06
3,726,705	5,062,855	.....	.....	.....	.....	.....	.....	23,365 21
491,210	430,275	.....	.....	.....	.....	.....	.....	3,172 26
5,281,400	583,650	.....	.....	.....	103,725	103,725	.....	33,813 04
95,374,640 38,600	84,843,155	1,031,110	539,580	491,530	9,630,795	4,426,000 ‡7,850	5,196,945	602,959 38
41,423,350	24,171,275	180,600	180,600	.....	17,750	9,525	8,225	256,883 84
35,311,175	31,366,905	977,570	769,770	207,800	4,737,060	3,671,510	1,065,550	230,194 23
337,060	581,875	.....	.....	.....	1,860,550	259,550	1,601,000	3,185 25
351,435	153,460	.....	.....	.....	.....	.....	.....	2,277 36
3,099,540	3,101,040	.....	.....	.....	.....	.....	.....	19,432 33
553,025	350,900	.....	.....	.....	.....	.....	.....	3,543 15
5,197,500	358,550	.....	.....	.....	46,100	46,100	.....	32,736 25
86,273,085	60,084,005	1,158,170	950,370	207,800	6,661,460	3,986,685	2,674,775	548,252 41

W. J. GERALD,
Deputy Minister.

APPENDIX A.—*Continued*—CIGARS.

No. 22.—WAREHOUSE RETURN for the nine months ended March 31, 1907.

DR. CR.

Remaining in Warehouse 1st July: Foreign	Remaining: Canadian	Remaining: Combination	Placed in Warehouse: Foreign	Placed: Canadian	Placed: Combination	Received from other Divisions: Foreign	Received: Canadian	Received: Combination	Totals: Foreign	Totals: Canadian	Totals: Combination	Divisions	Entered for Consumption: Foreign, at \$6 p. M	Entered: Canadian, at \$3 p. M	Entered: Combination, at \$3 p. M	Duty	Removed in Bond to other Divisions: Foreign	Removed: Canadian	Removed: Combination	Exported: Foreign	Exported: Combination	Wasted: Foreign	Wasted: Combination	Re-Manufacture: Foreign	Remaining: Foreign	Remaining: Canadian
No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.		No.	No.	No.	\$ cts.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
166,700			142,800						309,500			Belleville, Ont.	149,000			894 00	160,500									
736,635			1,208,560			846,000			2,791,195			Brantford "	1,508,095			9,018 03									1,283,100	
480,975			1,549,675						2,030,650			Guelph "	1,627,350			9,764 10	20,000								383,300	
2,445,590			4,903,610			5,050,000			12,399,200			Hamilton "	9,285,250			55,711 50									3,113,950	
993,725			1,756,775			160,500			2,911,000			Kingston "	1,890,300			11,341 80	8,000								1,012,700	
4,972,775			*9,648,110						14,620,885			London "	8,556,000			51,339 60	2,300,000								3,764,885	
99,250			182,300			179,800		20,000	461,350		20,000	Ottawa "	354,800		20,000	2,188 80	10,000								96,550	
30,050			276,475						306,525			Owen Sound "	163,900			983 40									142,625	
45,700			15,300			10,000			71,000			Perth "	42,000			252 00									29,000	
16,050			30,750						46,800			Peterborough "	21,000			126 00									25,800	
29,900			122,600						152,500			Prescott "	104,000			624 00									48,500	
104,000			217,875						321,875			St. Catharines "	201,325			1,207 95									120,550	
194,550			402,000						696,550			Stratford "	612,900			3,677 40									83,650	
1,343,065			[illegible]			68,000			4,608,535			Toronto "	2,507,660			15,045 96								[illegible]	2,086,450	
26,475		[illegible]	[illegible]		8,225				747,150		22,225	Windsor "	473,750		22,225	2,909 18									273,400	
[illegible]		11,000	31,174,875		8,225	6,314,300		20,000	42,474,715		42,225	Totals	27,497,240		42,225	165,113 72	2,498,500							[illegible]	12,464,550	
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]				129,500	121,000	764,000	Joliette, Que.	75,250	137,000	247,500	[illegible] 00	30,000		456,500						21,250	[illegible]
[illegible]		[illegible]	[illegible]			[illegible]		354,500	30,466,075		374,500	Montreal "	20,018,795		364,500	121,386 27	3,168,150			[illegible]					7,246,630	
	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	102,000	1,297,850	85,000	476,000	Quebec "	2,565,305	70,000	262,100	1[illegible]88 13							[illegible]		[illegible]732,545	[illegible]
					[illegible]	[illegible]	[illegible]		917,750	15,500	8,800	St. Hyacinthe "	73,275			439 65	806,000								38,475	[illegible]
[illegible]	[illegible]		[illegible]	[illegible]					5,068,110	62,000		Sherbrooke "	3,672,460	21,500		[illegible] 26	254,800	10,000							1,141,150	
[illegible]		[illegible]	[illegible]		[illegible]				173,275		112,600	Three Rivers "	96,750		52,200	737 10			20,000						76,525	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	165,000	40,500	456,500	11,052,860	353,500	1,765,900	Totals	26,531,835	228,500	926,300	[illegible] 41	4,258,950	10,000	476,500	[illegible]			[illegible]		[illegible]	81,[illegible]
[illegible]		[illegible]	[illegible]		1,601,000				1,149,145		2,022,450	St. John, N.B.	696,575		2,025,800	10,259 85				13,000	[illegible]	[illegible]			138,520	
[illegible]			[illegible]						403,230			Halifax, N.S.	174,320			1,045 92									228,910	
			[illegible]						32,100			Pictou "	26,400			158 40									5,700	
[illegible]			[illegible]						435,330			Totals	200,720			1,204 32									234,610	
[illegible]			[illegible]			[illegible]			4,477,705			Winnipeg, Man.	3,460,910			20,765 46									1,016,795	
[illegible]			[illegible]						443,325			Calgary, Alta.	361,275			2,167 65									82,050	
[illegible]			[illegible]						132,750			Vancouver, B.C.	109,600			657 60									23,150	
[illegible]			[illegible]						335,900			Victoria "	280,200			1,681 20									55,700	
[illegible]			[illegible]						468,650			Totals	389,800			2,338 80									78,850	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	40,[illegible]	476,500	90,501,730	553,500	1,730,665	Grand Totals	59,138,357	228,500	2,995,325	364,305 21	6,7[illegible]	10,[illegible]	476,500	[illegible]500	25,000	3,050	70,100	11,4[illegible]	24,574,950	84,500

[illegible]

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

W. J. GERALD,
Deputy Minister.

Dr. Cr.

No. 23.—Comparative Statement of Warehouse Returns for the Fiscal Year ended June 30, 1906 and the nine months ended March 31, 1907.

Remaining in Warehouse from last year			Warehoused			Received from other Divisions			Totals			Province	Ex-warehoused for Consumption				Removed to other Divisions			Exported		Warehoused	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Combination
Foreign	Canadian	Combination	Foreign	Canadian	Combination	Foreign	Canadian	Combination	Foreign	Canadian	Combination		Foreign at [illegible] per M	Canadian at $3 per M	Combination at $3 per M	Duty	Foreign	Canadian	Combination	Foreign	Combination										
No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	1906	No.	No.	No.	$ cts.	No.	No.	No.	No.	No.										
13,691,440	7,000	[illegible]	[illegible]	491	[illegible]	[illegible]	[illegible]	917,850	56,385,570	7,000	157,625	Ontario	41,281,[illegible]	7,000	143,[illegible]	248,140 [illegible]	3,102,47[illegible]		917,850	16,000		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
11,376,290	[illegible]	[illegible]	20,566,950		[illegible]	[illegible]			51,008,160	809,220	3,941,920	Quebec	39,485,7[illegible]	621,020	[illegible]	245,007 [illegible]	1,756,000	83,000		79,775		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
549,73[illegible]		[illegible]	707,825						1,257,570		3,944,200	New Brunswick	688,8[illegible]		[illegible]	[illegible]				1,450	3,701										
274,000			[illegible]			[illegible]			556,170			Nova Scotia	245,700			1,474 20				28,600											
[illegible]			5,092,855			[illegible]			6,114,030			Manitoba	5,015,51[illegible]			30,093 [illegible]															
[illegible]			430,275						535,425			Alberta	145,000			2,658 40															
[illegible]			383,650						893,950			British Columbia	765,800			4,642 80				15,050											
[illegible]	[illegible]	[illegible]	1,[illegible]43,155	491	[illegible]	[illegible]	83,000	917,850	116,750,675	816,220	7,343,74[illegible]	Totals	87,[illegible]8,975	628,020	4,8[illegible],40	543,976 13	4,858,475	83,000	917,850	140,875	3,701	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
												1907																			
[illegible]		[illegible]	[illegible]			[illegible]		20,000	49,174,735		42,[illegible]25	Ontario	[illegible]		[illegible]	165,113 72	2,498,500					[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]66,205	207	[illegible]	[illegible]	10,500	146,500	11,0[illegible]9,860	[illegible]	1,765,990	Quebec	[illegible]	[illegible]	926,300	[illegible] 41	4,258,900	40,500	476,500	2,000		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]		[illegible]	[illegible]84,87[illegible]		[illegible]				1,119,11[illegible]		2,922,150	New Brunswick	696,[illegible]75		2,026,800	[illegible]				13,000	25,000										
[illegible]			[illegible]						43[illegible]			Nova Scotia	200,720			[illegible]															
[illegible]			[illegible]			[illegible]			[illegible]			Manitoba	[illegible]			[illegible]															
[illegible]			[illegible]						143,525			Alberta	361,275			[illegible]															
[illegible]			[illegible]						468,650			British Columbia	389,800			[illegible]															
[illegible]	[illegible]	[illegible]	[illegible]	207	[illegible]	[illegible]	10,500	476,500	90,501,730	[illegible]	4,730,665	Totals	[illegible]138,375	[illegible]	[illegible]	[illegible]	[illegible]	40,500	476,500	15,500	25,000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

	1906	1907
Total duty collected, ex-manufactory and ex-warehouse	$ 1,131,688 01	$ 901,260 10
Licence fees	15,247 50	11,497 52
Totals	$ 1,146,935 51	$912,757 62

Inland Revenue Department,
Ottawa, May [illegible], 1908.

W. J. Gerald,
Deputy Minister.

APPENDIX A.—*Continued*—INSPECTION OF PETROLEUM.

No. 24.—RETURN of Canadian Petroleum and Naphtha inspected during the nine months ended March 31, 1907.

DIVISION.	LICENSES.		Petroleum.	Naphtha.	Total.
	No	Fees.			
		$	Galls.	Galls.	Galls.
London	2	1 50	12,560,054·42	2,741,705·43	15,301,759·85

W. J. GERALD,
Deputy Minister.

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

No. 25.—Comparative Statement of Petroleum and Naphtha inspected during the Fiscal Year ended June 30, 1906 and the nine months ended March 31, 1907.

Provinces.	Licenses.		Petroleum.	Naphtha.	Totals.
	No.	Free.			
1906.			Galls.	Galls.	Galls.
Ontario	2	2 00	15,740,771·31	2,893,383·55	18,634,154·86
1907.					
Ontario	2	1 50	12,560,054·42	2,741,705·43	15,301,759·85

W. J. GERALD,
Deputy Minister.

Inland Revenue Department,
Ottawa, May 31, 1907.

APPENDIX A.—*Continued*—MANUFACTURES IN BOND.

No. 26.—RETURN of Manufactures for the

DIVISIONS.	LICENSES.		MATERIALS USED.			
	No.	Fees.	Spirits.	Beer, Wine, &c.	Nitric Acid.	Mercury.
		$ cts.	Galls.	Galls.	Lbs.	Lbs.
Brantford, Ont.	1	37 50	4,147·84	36·58		
Guelph "	1	37 50				
Hamilton "	3	112 50	18,290·99	299·20		
Kingston "	1	37 50	7,268 31	145·99		
Ottawa "	1	37 50	3,622·63	14·50		
Perth "	2	75 00				
Prescott "	1	225 00	143,745·07		724,809	77,257
Toronto "	4	150 00	82,506 74	939·30		
Windsor "	4	150 00				
Totals	18	862 50	259,581·58	1,435·57	724,809	77,257
Montreal, Que.	9	337 50	37,360 08	401·60		
Quebec "	2	75 00	14,423·09	412·00		
St. Hyacinthe, Que.	2	75 00	16,454·65	220·30		
Sherbrooke "	1	225 00	18,903 54		88,907	11,100
Totals	14	712 50	87,141·36	1,033·90	88,907	11,100
St. John, N.B	2	75 00	9,424·82	109·30		
Winnipeg, Man.	2	75 00	10,844·48	76·00		
Vancouver, B.C	1	37 50	5,055·27	84·70		
Grand Totals	37	1,762 50	372,047·51	2,739·47	813,716	88,357

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

nine months ended March 31, 1907.

Manufactured.		Paid Duty ex-Manufactory.		Warehoused.		Total Duty Collected ex-Manufactory, including License Fees.
Vinegar.	Crude Fulminate.	Vinegar.	Duty.	Vinegar.	Crude Fulminate.	
Galls.	Lbs.	Galls.	$ cts.	Galls.	Lbs.	$ cts.
21,249·24	.....	21,249·24	849 97	.....	.....	887 47
.....	.....	.....	.....	.....	.....	37 50
115,694·23	.....	59,250·75	2,370 03	56,443·48	.....	2,482 53
49,519·15	.....	14,565·49	582 65	34,953·66	.....	620 15
16,872·84	.....	8,734·05	349 36	8,138·79	.....	386 86
.....	.....	.....	.....	.....	.....	75 00
.....	93,475	.....	.....	.....	93,475	225 00
481,968·06	.....	267,979 32	10,719 21	213,988·74	.....	10,869 21
.....	.....	.....	.....	.....	.....	150 00
685,303·52	93,475	371,778·85	14,871 22	313,524·67	93,475	15,733 72
199,417·76	.....	136,752·47	5,470 14	62,665·29	.....	5,807 64
69,936·48	.....	47,916·06	1,916 56	22,020·42	.....	1,991 56
94,040·11	.....	37,461·70	1,498 47	56,578·41	.....	1,573 47
.....	13,193	.....	.....	.....	13,193	225 00
363,394·35	13,193	222,130·23	8,885 17	141,264·12	13,193	9,597 67
53,938·61	.....	39,883·16	1,595 32	14,055·45	.....	1,670 32
47,120·84	.....	33,215·46	1,328 59	13,905·38	.....	1,403 59
32,652 52	.....	27,511·72	1,100 47	5,140·80	.....	1,137 97
1,182,409·84	106,668	694,519 42	27,780 77	487,890·42	106,668	29,543 27

W. J. GERALD,
Deputy Minister.

APPENDIX A.—*Continued*—MANUFACTURES IN BOND.

No. 27.—Comparative Statement of Manufactures for the Fiscal

Provinces.	Licenses.		Materials Used.			
	No.	Fees.	Spirits.	Beer, Wine, &c.	Nitric Acid.	Mercury.
1906.		$ cts.	Galls.	Galls.	Lbs.	Lbs.
Ontario	21	1,500 00	332,345·58	1,691·24	990,029	108,031½
Quebec	12	800 00	97,820·77	948·73	180,084	23,850
New Brunswick	2	100 00	9,243·46	116·00	...	...
Manitoba	2	75 00	2,858·46	36·00	...	...
British Columbia	1	50 00	8,231·18	118·70	...	...
Totals	38	2,525 00	450,499·45	2,910·67	1,170.113	131,881½
1907.						
Ontario	18	862 50	259,581·58	1,435·57	724,809	77,257
Quebec	14	712 50	87,141·36	1,033·90	88,907	11,100
New Brunswick	2	75 00	9,424·82	109·30	...	...
Manitoba	2	75 00	10,844·48	76·00	...	...
British Columbia	1	37 50	5,055·27	84·70	...	...
Totals	37	1,762 50	372,047·51	2,739·47	813,716	88,357

Inland Revenue Department,
Ottawa, May 31, 1907.

Year ended June 30, 1906 and the nine months ended March 31, 1907.

Manufactured.		Paid Duty ex-Manufactory.		Warehoused.		Total Duty collected ex-Manufactory, including License Fees.
Vinegar.	Crude Fulminate.	Vinegar.	Duty.	Vinegar.	Crude Fulminate.	
Galls.	Lbs.	Galls.	$ cts.	$ cts.	Lbs.	$ cts.
824,494 24	130,899	381,986·07	15,467·92	442,508·17	130,899	16,967 92
308,168·79	26,574	200,171·48	8,006·92	107,997·31	26,574	8,806 92
56,419·79	.....	42,986·44	1,719·46	13,433·35	.....	1,819 46
16,917·62	.....	16,917·62	676·71	.....	.....	751 71
53,145·03	.....	18,516·75	740·67	34,628·28	.....	790 67
1,259,145·47	157,473	660,578·36	26,611·68	598,567·11	157,473	29,136 68
685,303·52	93,475	371,778·85	14,871·22	313,524·67	93,475	15,733 72
363,394·35	13,193	222,130·23	8,885·17	141,264·12	13,193	9,597 67
53,938·61	.....	39,883·16	1,595·32	14,055·45	.....	1,670 32
47,120·84	.....	33,215·46	1,328·59	13,905·38	.....	1,403 59
32,652·52	.....	27,511·72	1,100·47	5,140·80	.....	1,137 97
1,182,409·84	106,668	694,519·42	27,780·77	487,890·42	106,668	29,543 27

W. J. GERALD,
Deputy Minister.

APPENDIX A.—*Continued*—MANUFACTURES IN BOND.

DR. No. 28.—WAREHOUSE RETURN for the Fiscal

Remaining in Warehouse from last year.	Warehoused.		Received from other Divisions.	Totals.		DIVISIONS.
Vinegar.	Vinegar.	Crude Fulminate.	Vinegar.	Vinegar.	Crude Fulminate.	
Galls.	Galls.	Lbs.	Galls.	Galls.	Lbs.	
29,158 06	56,443 48	.....	2,608 83	88,210 37	.....	..Hamilton, Ont .....
5,235 72	34,953 66	.....	.....	40,189 38	.....	..Kingston " .....
.....	8,138 79	.....	.....	8,138 79	.....	..Ottawa " .....
.....	.....	93,475	.....	.....	93,475	. Prescott " .....
71,748 93	213,988 74	.....	.....	285,737 67	.....	. Toronto " .....
106,142 71	313,524 67	93,475	2,608 83	422,276 21	93,475	.....Totals.....
14,843 67	62,665 29	.....	.....	84,279 92	.....	..Montreal, Que .....
.....	22,020 42	.....	6,770 96	26,592 66	.....	..Quebec " .....
17,211 04	56,578 41	.....	4,572 24	73,789 45	.....	..St. Hyacinthe " ....
.....	.....	13,193	.....	.....	13,193	..Sherbrooke " .....
32,054 71	141,264 12	13,193	11,343 20	184,662 03	13,193	..... Totals.....
8,419 91	14,055 45	.....	.....	22,475 36	.....	..St. John, N.B.....
9,756 96	13,905 38	.....	11,729 03	35,391 37	.....	..Winnipeg, Man .....
10,444 67	5,140 80	.....	.....	15,585 47	.....	..Vancouver, B.C .....
166,818 96	487,890 42	106,668	25,681 06	680,390 44	106,668	.... Grand Totals .....

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

nine months ended March 31, 1907. CR.

Entered for Consumption.		Removed to other Divisions.	Free	Exported.	Remaining in Warehouse.	Totals.	
Vinegar.	Duty.	Vinegar.	Vinegar.	Crude Fulminate.	Vinegar.	Vinegar.	Crude Fulminate.
Galls.	$ cts.	Galls.	Galls.	Lbs.	Galls.	Galls.	Lbs.
48,208 95	1,928 35				40,001 42	88,210 37	
23,220 29	928 83				16,969 09	40,189 38	
3,296 98	131 88				4,841 81	8,138 79	
				93,475			93,475
133,876 00	5,355 04	14,337 86			137,523 81	285,737 67	
208,602 22	8,344 10	14,337 86		93,475	199,336 13	422,276 21	93,475
29,203 89	1,168 15				55,076 03	84,279 92	
4,572 24	182 89				22,020 42	26,592 66	
30,589 10	1,223 58	11,343 20	811 41		31,045 74	73,789 45	
				13,193			13,193
64,365 23	2,574 62	11,343 20	811 41	13,193	108,142 19	184,662 03	13,193
8,419 91	336 80				14,055 45	22,475 36	
20,025 60	801 03				15,365 77	35,391 37	
5,553 64	222 15				10,031 83	15,585 47	
306,966 60	12,278 70	25,681 06	811 41	106,668	346,931 37	680,390 44	106,668

W. J. GERALD,
Deputy Minister.

APPENDIX A.—*Continued*—MANUFACTURES IN BOND.

DR. No. 29.—COMPARATIVE STATEMENT of Warehouse Returns for the Fiscal

Remaining in Warehouse from last year.	Warehoused.		Received from other Divisions.	Totals.		PROVINCES.
Vinegar.	Vinegar.	Crude Fulminate.	Vinegar.	Vinegar.	Crude Fulminate.	
Galls.	Galls.	Lbs.	Galls.	Galls.	Lbs.	1906.
148,557·59	442,508·17	130,899	6,643·85	597,709·61	130,899	..Ontario
108,197·22	107,997·31	26,574	16,991·38	233,185·91	26,574	..Quebec
7,524·60	13,433·35			20,957·95		..New Brunswick
			84,703·18	84,703·18		..Manitoba
	34,628·28			34,628·28		..British Columbia
264,279·41	598,567·11	157,473	108,338·41	971,184·93	157,473	.....Totals
						1907.
106,142·71	313,524·67	93,475	2,608·83	422,276·21	93,475	..Ontario
32,054·71	141,264·12	13,193	11,343·20	184,662·03	13,193	..Quebec
8,419·91	14,055·45			22,475·36		..New Brunswick
9,756·96	13,905·38		11,729·03	35,391·37		..Manitoba
10,444·67	5,140·80			15,585·47		..British Columbia
166,818·96	487,890·42	106,668	25,681·06	680,390·44	106,668	..... Totals

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

Year ended June 30, 1906 and the nine months ended March 31, 1907. CR.

Entered for Consumption.		Removed to other Divisions.	Free.	Exported.	Remaining in Warehouse.	Totals.	
Vinegar.	Duty.	Vinegar.	Vinegar.	Crude Fulminate.	Vinegar.	Vinegar.	Crude Fulminate.
Galls.	$ cts.	Galls.	Galls.	Lbs.	Galls.	Galls.	Lbs.
400,219·87	16,008 75	91,347·03	.....	130,899	106,142·71	597,709·61	130,899
170,494·31	6,819 78	16,991·38	13,645·51	26,574	32,054·71	233,185·91	26,574
12,538·04	501 50	.....	.....	.....	8,419·91	20,957·95	.....
67,016·83	2,680 65	.....	7,929·39	.....	9,756·96	84,703·18	.....
24,183 61	967 37	.....	.....	.....	10,444·67	34,628·28	.....
674,452·66	26,978 05	108,338·41	21,574·90	157,473	166,818·96	971,184·93	157,473
208,602·22	8,344 10	14,337·86	.....	93,475	199,336·13	422,276·21	93,475
64,365·23	2,574 62	11,343·20	811·41	13,193	108,142·19	184,662·03	13,193
8,419·91	336 80	.....	.....	.....	14,055·45	22,475·36	.....
20,025·60	801 03	.....	.....	.....	15,365·77	35,391·37	.....
5,553·64	222 15	.....	.....	.....	10,031·83	15,585·47	.....
306,966·60	12,278 70	25,681·06	811·41	106,668	346,931·37	680,390·44	106,668

	1906.	1907.
Total duty collected, ex-manufactory and ex-warehouse	$ 53,589 73	$ 40,059 47
License Fees	2,525 00	1,762 50
Totals.....	$ 56,114 73	$ 41,821 97

W. J. GERALD,
Deputy Minister.

APPENDIX A.—*Continued*—ACETIC ACID.

No. 30.—RETURN of Manufactures for the nine months ended March 31, 1907.

DIVISION.	LICENSES.		MANUFACTURED.	PAID DUTY EX-MANUFACTORY.		Total Duty collected ex-Manufactory, including License Fees.
	No.	Fees.	—	—	Duty.	
		$ cts.	Galls.	Galls.	$ cts.	$ cts.
Montreal, Que	1	37 50	47,674·69	47,674·69	1,907 00	1,944 50

W. J. GERALD,
Deputy Minister.

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

APPENDIX A.—*Continued*—ACETIC ACID.

No. 31.—COMPARATIVE STATEMENT of Manufactures for the Fiscal Year ended June 30, 1906, and the nine months ended March 31, 1907.

PROVINCES.	LICENSES.		MANUFACTURED.	PAID DUTY EX-MANUFACTORY.		Total Duty collected ex-Manufactory, including License Fees.
	No.	Fees.	—	—	Duty.	
1906.		$ cts.	Galls.	Galls.	$ cts.	$ cts.
Ontario	1	50 00	.....	....	....	50 00
Quebec	1	50 00	7,657·37	7,657·37	306 29	356 29
Totals.....	2	100 00	7,657·37	7,657·37	306 29	406 29
1907.						
Quebec.....	1	37 50	47,674·69	47,674·69	1,907 00	1,944 50

W. J. GERALD,
Deputy Minister

INLAND REVENUE DEPARMENT,
OTTAWA, May 31, 1907.

APPENDIX A.—*Continued*—ACETIC ACID.

No. 32.—COMPARATIVE STATEMENT of Warehouse Returns for the Fiscal Year ended June 30, 1906, and the nine months ended March 31, 1907.

DR. CR.

Remaining in Warehouse from last year.	Totals.	Province.	Entered for Consumption.	Duty.	Totals.
Galls.	Galls.	1906.	Galls.	$ cts.	Galls.
31,244·98	31,244·98	...Ontario.....	31,244·98	1,249 80	31,244·98
		1907.			
....	.....	... No warehousing transactions	....	.....	.....

	1906.	1907.
Total duty collected, ex-manufactory and ex-warehouse.....	$ 1,556 09	$ 1,907 00
License Fees	100 00	37 50
	$ 1,656 09	$ 1,944 50

W. J. GERALD,
Deputy Minister.

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

(A)

METHYLATED SPIRITS.

No. 33.—STATEMENT showing the quantity of Raw Materials on hand on July 1, 1906, and March 31, 1907, and brought in and used during the nine months ended March 31, 1907.

DR. CR.

Names of Articles.	Stock on hand July 1, 1906.	Brought in during the nine months.	Total to be Accounted for.	Used in manufacture of Methylated Spirits.	Sold.	Stock on hand March 31, 1907.	Total Accounted for.
	Pr'f galls.	Pr'f galls.	Pr'f galls.	Pr'f galls.	Pr'f galls.	Pr'f galls.	Pr'f galls.
Alcohol... ...	2,467·15	59,564·61	62,032·06	56,854·81	....	5,177·25	62,032·66
Wood Naphtha..	3,872·75	23,956·46	27,829·21	18,730·50	.. ....	9,098·71	27,829·21

(B)

STATEMENT showing the quantity of Raw Materials used, and Methylated Spirits produced therefrom.

DR. CR.

Alcohol used Statement (A) above.	Wood Naphtha used Statement (A) above.	Methylated Spirits used Statement (C) next page.	Total to be Accounted for.	Methylated Spirits produced.	Loss in Manufacture.		Total Accounted for.
Pr'f galls.	Pr'f galls.	Pr'f galls.	Pr'f galls.	Pr'f galls.	Pr'f galls.	p.c.	Pr'f galls.
56,854·81	18,730 50	....	75,585·31	73,458·78	2,126·53	2·81	75,585·31

(C)

STATEMENT showing the quantity of Methylated Spirits on hand on July 1, 1906, and March 31, 1907; also quantity brought in, manufactured, sold and otherwise accounted for during the nine months ended March 31, 1907.

DR. CR.

Stock on hand July 1, 1906.	Manufactured as per Statement (B), page 104.	Brought in during the nine months.	Total to be Accounted for.	Sold.	Used in Methylated Spirits Warehouse.	Re-used in Manufacture of Methylated Spirits.	Stock on hand March 31, 1907.	Total Accounted for.
Pr'f galls.	Pr'f galls.	Pr'f galls.	Pr'f galls.	Pr'f galls.	Pr'f galls.	Pr'f galls.	Pr'f galls.	Pr'f galls.
4,781·52	73,458·78	67·08	73,307·38	71,971·05	. . . . .	. . . . .	6,336·33	78,307·38

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

W. J. GERALD,
Deputy Minister.

DR. No 34.—HYDRAULIC and other Rents, &c., Lessees'

Balances due July 1, 1906.	Rents accrued up to March 31, 1907.	Totals.	Number.	Location.	Original Lessees.	Present Occupants
$ cts.	$ cts.	$ cts.				
100 00	100 00	200 00	1	Ottawa River	Perley & Pattee	J. R. Booth
50 00	50 00	100 00	2	"	Thomson & Perkins	"
150 00	150 00	300 00	3	"	Lyman Perkins	"
150 00	150 00	300 00	4	"	R. Blackburn *et al*	McKay Milling Co. Ltd
	100 00	100 00	5	"	J. & J. Petrie	Ottawa Electric Co.
	100 00	100 00	6	"	A. H. Baldwin	"
	300 00	300 00	7	"	Bank of Montreal	Ottawa Elec. Ry: Co.
	400 00	400 00	8	"	Perley & Pattee	Ottawa Investment Co Ltd.
	50 00	50 00	9	"	J. M. Currier	N. S. Blaisdell
	300 00	300 00	10	"	Harris, Bronson & Co.	The Ottawa Power Co.
	200 00	200 00	11	"	Levi Young	Ottawa Elec. Ry. Co.
	104 00	104 00	12	"	J. R. Booth	"
10 00		10 00	13	"	Bronson & Weston	"
	100 00	100 00	14	"	"	"
	96 00	96 00	15	"	Perley & Pattee	J. R. Booth
88 00	8 00	96 00	16	"	L. M. Coutlée	Mary Conroy
570 84		570 84	17	"	John Rochester	"
	25 00	25 00	18	"	Nérée Tétreau	Thos. Ahearn
200 00		200 00	19	"	Hon. J. Skead	
96 00		96 00	20	"	"	
	1 00	1 00	21	"	G. A. Grier & Co.	Ottawa Elec. Ry. Co.
380 00		380 00	22	"	John Rankin	
75 00	75 00	150 00	23	"	J. R. Booth	
75 00		75 00	24	"	Colin Dewar	
	50 00	50 00	25	"	Bronson & Weston	
	1 00	1 00	26	"	Alfred Desjardins	
	100 00	100 00	27	"	The Bronson Co.	
	10 00	10 00	28	"	Ottawa Electric Co.	
	1 00	1 00	1	St. Lawrence	Quebec Harb. Comiss'ners	
200 00	25 00	225 00	2	"	Rich. & Ont. Nav. Co.	
1 00		1 00	3	Quebec	Corporation of Quebec	
	1 00	1 00	4	"	Narcisse Blais	
	1 00	1 00	5	Rondeau Harbour	School Trustees	
1 00	1 00	2 00	6	Collingwood	Great Northern Trans. Co	
2 00	1 00	3 00	7	Ottawa	E. G. Laverdure	
	1 00	1 00	8	Three Rivers	Corp. of Three Riviers	
100 00		100 00	9	"	W. Ritchie	
165 00		165 00	10	British Columbia	A. Peel	
90 00		90 00	11	"	Jonathan Maury	
25 00		25 00	12	"	Roderick Finlayson	
25 00		25 00	13	"	Joseph Spratt	
	1 00	1 00	14	"	Bank of Brit. Columbia	
1 00	1 00	2 00	15	"	W. Dodd	
	12 00	12 00	16	"	D. W. Gordon	
5 00		5 00	17	"	S. Williams	
20 00	5 00	25 00	18	"	Geo. A. Huff	
70 00		70 00	19	Rivière du Lièvre	Dominion Phosphate Co., Ltd	
1 00		1 00	20	Charlottetown	Rt. Rev. Bishop McIntyre	Rt. Rev. Bishop McDonald

SESSIONAL PAPER No. 12

Accounts for nine the months ended March 31, 1907. CR.

Description of Property.	Number.	Date to which Account is made up.	Paid during the nine months.	Balances due on March 31, 1907.	Totals.
			$ cts.	$ cts.	$ cts.
Lots B and C, Chaudière st., service ground	1	Dec. 31, 1906	200 00		200 00
Lot D	2	" 31, 1906	100 00		100 00
Lots E, F and G, South Head st	3	" 31, 1906	300 00		300 00
Lots H, I and J, grist mill, North Head st	4	" 31, 1906	300 00		300 00
Lot K, fanning mill, South Head st	5	" 31, 1906	100 00		100 00
Lot L, service ground	6	" 31, 1906	100 00		100 00
Lots Q, R and T, service ground, North Middle st	7	" 34, 1906	300 00		300 00
Lots M, N, O and P, service ground (no water used)	8	" 31, 1906	400 00		400 00
Lot S, service ground	9	" 31, 1906	50 00		50 00
Lots U, V, W, X, Y and Z, service ground	10	" 31, 1906	300 00		300 00
Two strips of land	11	Jan. 1, 1908	200 00		200 00
Lumber yard at head of slides	12	Sept. 20, 1907	104 00		104 00
Bridge over slides	13	June 30, 1907		10 00	10 00
Strip of land, Amelia Island	14	Jan. 1, 1908	100 00		100 00
Reserve, head of Chaudière Island	15	" 1, 1908	96 00		96 00
Small island, Deschênes Rapids	16	" 1, 1907		96 00	96 00
Portion of Lot 39, Concession 'A,' Nepean	17	" 1, 1885		570 84	570 84
Excavated channel, slide and two dams, Little Chaudière	18	March 1, 1908	25 00		25 00
Water lot, opposite lot 30, Concession 'A,' Nepean	19	Dec. 1, 1891		200 00	200 00
Three small islands, Ottawa River	20	May 1, 1891		96 00	96 00
Covering over portion of Ottawa slides	21	Nov. 10, 1907	1 00		1 00
East portion of Hawley's Island	22	June 30, 1891		380 00	380 00
Piece of land, southwest end of Union Bridge	23	May 12, 1907	150 00		150 00
Piece of land on Victoria Island	24	June 15, 1907		75 00	75 00
Piece of land, south side of Middle st., Victoria Island	25	Aug. 31, 1907	50 00		50 00
Piece of land, Longue Pointe Rouge Templeton, Ottawa County	26	Oct. 24, 1907	1 00		1 00
Southwest of lot No. 1, Amelia Island	27	" 9, 1906	100 00		100 00
Lot Pa, South Head st	28	Jan. 10, 1908	10 00		10 00
Small lot near Custom House, Quebec	1	Sept. 1, 1907	1 00		1 00
Roadway from pier at Coteau Landing	2	July 1, 1907		225 00	225 00
Old Provincial Govt. b'ldg. grounds, on Mountain Hill	3	June 25, 1907		1 00	1 00
Privilege to erect bridge on St. Charles River	4	Feb. 6, 1908		1 00	1 00
Use of old log house, formerly used as Custom House, Shrewsbury, Ont	5	Sept. 11, 1906	1 00		1 00
Use of breakwater for storing coal	6	Feb. 5, 1908	1 00	1 00	2 00
Southeast half of Lot 8, Ottawa	7	Dec. 18, 1909		3 00	3 00
Lot of land on Christopher Island, St. Maurice River	8	" 1, 1907	1 00		1 00
Outlet of River St, Maurice	9	June 30, 1906		100 00	100 00
Portion of Assay Office, New Westminster	10	July 1, 1889		165 00	165 00
" " "	11	" 1, 1889		90 00	90 00
Privilege to erect two bulkheads, Rock Bay, Victoria Harbour	12	June 1, 1907		25 00	25 00
Privilege to build a wharf opposite his own property, Victoria Harbour	13	" 1, 1907		25 00	25 00
Right of drainage through Govt. property, Nanaimo	14	Dec. 1, 1907	1 00		1 00
Old Government House, Yale	15	July 24, 1906		2 00	2 00
Beach lots, A, C, E and F, front of 7, 8, 9, Nanaimo Harbour	16	Aug. 27, 1907	12 00		12 00
Frontage of lot 7, block M, Victoria	17	July 16, 1904		5 00	5 00
Permission to build a wharf on lot A, block 2, Sumas River, Alberni, B.C.	18	Aug. 12, 1907		25 00	25 00
Permission to erect a landing at Little Rapids, Rivière du Lièvre	19	April 30, 1898		70 00	70 00
Leave to connect drain to main service of pub. building	20	May 16, 1902		1 00	1 00

DR. No. 34.—HYDRAULIC and other Rents, &c., Lessees'

Balances due July 1, 1906.	Rents accrued up to March 31, 1907.	Totals.	Number.	Location.	Original Lessees.	Present Occupants.
$ cts.	$ cts.	$ cts.				
	16 00	16 00	21	Antigonish, N.S..	L. C. Archibald	
	1 00	1 00	22	Owen Sound	G. T. Railway	
240 00		240 00	23	Windsor	Archie McNee	
	5 00	5 00	24	Bayfield, N.S	Charles L. Gass	
1 00		1 00	25	"	"	
	5 00	5 00	26	Village of Brook, Ont	William Pedwell	
2,891 84	2,547 00	5,438 84				

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

Accounts for nine the months ended March 31, 1907—*Concluded.* CR.

Description of Property.	Number.	Date to which Account is made up.	Paid during the nine months.	Balances due on March 31, 1907.	Totals.
			$ cts.	$ cts.	$ cts.
Tract of land and water lot, McNair's Cove	21	Dec. 31, 1907	16 00		16 00
Lot of land, west of Sydenham River	22	" 31, 1907		1 00	1 00
Lot on Ouelette st., Windsor, Ont	23	" 30, 1900		240 00	240 00
Water lot	24	" 7, 1907		5 00	5 00
"	25	June 8, 1907		1 00	1 00
"	26	Mar. 31, 1907		5 00	5 00
Totals			3,020 00	2,418 84	5,438 84

W. J. GERALD,
Deputy Minister.

DR. No. 34 (A).—HYDRAULIC and other Rents, &c.—Lessees'

Balances due on July 1, 1906.	Totals.	Number.	Location.	Name of Proprietors.
$ cts.	$ cts.			LAND SALES—PRINCIPAL ACCOUNT.
12,092 83	12,092 83	1	Hamilton and Port Dover Road	Choat & Kern
433 34	433 34	2	Bonner's property, Quebec.	Timothy Sullivan, now M. Murphy
333 34	333 34	3		John Bailey, now Alex. Powell.
300 00	300 00	4		Abraham Thompson
147 80	147 80	5		John Boomer
248 40	248 40	6		John Garbatz, now J. C. Nolan
154 80	154 80	7		N. H. Bowen
600 00	600 00	8		Estate Robert Reid
333 33	333 33	9		John Chevalier
533 33	533 33	10		Daniel Holden
333 33	333 33	11		George Creeley
63 00	63 00	12		Thomas McAdam
15,573 50	15,573 50			
				LAND SALES—INTEREST ACCOUNT.
6,298 25	6,298 25	1	Hamilton and Port Dover Road	Choat & Kern (matured)
558 00	558 00	2	Bonner's property, Quebec.	Timothy Sullivan, now M. Murphy
120 00	120 00	3		John Bailey, now Alex. Powell.
306 00	306 00	4		Abraham Thompson
155 22	155 22	5		John Boomer
275 82	275 82	6		John Garbatz, now J. C. Nolan
208 95	208 95	7		N. H. Bowen.
828 00	828 00	8		Estate Robert Reid
190 00	190 00	9		John Chevalier.
298 68	298 68	10		Daniel Holden
35 91	35 91	11		George Creeley
100 00	100 00	12		Thomas McAdam
100 00	100 00	13		Joseph Brook, tenant
9,474 83	9,474 83			

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

SESSIONAL PAPER No. 12

A—*Concluded.*

Accounts, for the nine months ended March 31, 1907—*Concluded.* CR.

Description of Property.	Number.	Date to which the account is made up.	Balances due on March 31, 1907.	Totals.
			$ cts.	$ cts.
Hamilton and Port Dover and Caledonia Bridge	1		12,092 83	12,092 83
Lot No. 1, Wolfe Street	2		433 34	433 34
" 9 "	3		333 34	333 34
" 49 "	4		300 00	300 00
" 73 and 74, Tower Street	5		147 80	147 80
" 64, Wolfe Street, and 211 and 252 Ware Street	6		248 40	248 40
" 67 and 68, Monument Street	7		154 80	154 80
" 22 and 23, Wolfe Street	8		600 00	600 00
" 32, Wolfe Street	9		333 33	333 33
" 65 and 66, Wolfe Street	10		533 33	533 33
" 31, Wolfe Street	11		333 33	333 33
" 135, Church Street	12		63 00	63 00
			15,573 50	15,573 50
	1	June 30, 1874.	6,298 25	6,298 25
Lot No. 1, Wolfe Street	2	May 1, 1889	558 00	558 00
" 9 "	3	"	120 00	120 00
" 49 "	4	"	306 00	306 00
" 73 and 74, Tower Street	5	"	155 22	155 22
" 64 Wolfe Street, and 211 and 252 Ware Street	6	"	275 82	275 82
" 67 and 68, Monument Street	7	"	208 95	208 95
" 22 and 23, Wolfe Street	8	"	828 00	828 00
" 32, Wolfe Street	9	Nov. 1, 1863	190 00	190 00
" 65 and 66, Wolfe Street	10	"	298 68	298 68
" 31, Wolfe Street	11	"	35 91	35 91
" 135, Church Street	12	"	100 00	100 00
Monument Hotel	13	"	100 00	100 00
			9,474 83	9,474 83

W. J. GERALD,
Deputy Minister.

APPENDIX B.

No 1.—Details of Excise Expenditures for the nine months ended March 31, 1907.

To whom paid.	Divisions.	Deductions for			Amounts paid.	Total amounts paid.
		Retirement.	Superannuation.	Guarantee		
	Belleville.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Iler, B.	Salary as Collector for nine months	.....	33 45	5 40	1,636 11	
Standish, J. G.	" Special Class Exciseman for nine months	.....	27 00	3 24	1,319 76	
Pole, C. W.	" Deputy Collector for nine months	....	25 53	2 70	1,246 77	
McCoy, W.	" Special Class Exciseman for nine months	.....	21 03	3 24	1,025 73	
McCuaig, A. F.	" Deputy Collector for nine months	.....	14 94	2 16	688 42	
McFee, A. C.	" 1st Class Exciseman, from July 1 to Dec. 1, 1906. Removed to Owen Sound.	.....	16 00	1 20	441 10	
Brown, W. J.	" 1st Class Exciseman for nine months	41 85	.....	2 16	793 44	
Wilson, H. R.	" 3rd Class Exciseman, from Aug. 6 to Dec. 31, 1906, and 2nd Class from Jan. 1 to Mar. 31, '07	25 13	.....	2 16	475 50	
Blyth, A	" 2nd Class Exciseman from January 1 to March 31, 1907	18 95	.....	0 96	359 24	
	Salaries	85 93	137 95	23 22	7,986 07	
	Contingencies	.....	.....	.....	1,071 11	
						9,057 18
	Brantford.					
O'Donohue, M. J.	Salary as Collector for nine months	.....	25 59	5 40	1,248 99	
Sloan, W.	" Deputy Collector for nine months	48 72	.....	2 70	923 58	
Weyms, C.	" 1st Class Exciseman from July 1. to Aug. 31 1906	.....	3 82	0 48	187 36	
Orr, H. N	" 1st Class Exciseman for nine months	.....	30 36	2 16	834 66	
Newsome, I	" Probationary 3rd Class from July 1 to Aug. 5 and confirmed as 3rd Class from August 6, 1906 to Jan. 13, 1907, and 2nd Class from Jan. 14 to Mar. 31, 1907.	25 13	.....	2 16	475 50	
Schuler, F. C.	" Probationary 3rd Class from Jan. 14 to Mar. 31, 1907	5 36	.....	0 48	101 66	
	Salaries	79 21	59 77	13 38	3,771 75	
	Contingencies	.....	.....	.....	1,159 57	
						4,931 32
	Cornwall.					
Mulhern, M. M.	Salary as Collector for nine months	.....	16 95	2 70	830 31	
	Contingencies	.....	.....	.....	86 85	
						917 16
	Guelph.					
Powell, J. B	Salary as Collector for nine months	.....	36 00	5 40	1,758 60	
Till, T. M	" Deputy Collector for nine months	.....	25 53	2 70	1,246 77	

APPPENDIX B.—No. 1.—Details of Excise Expenditures for the nine months ended March 31, 1907—*Continued.*

To whom paid.	Divisions.	Deductions for Retirement.	Deductions for Superannuation.	Deductions for Guarantee	Amounts paid.	Total amounts paid.
	Guelph—Con.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Dawson, W.	Salary as Special Class Exciseman for nine months	.....	27 00	3 24	1,319 76	
Woodward, G. W.	" " "	..	21 03	3 24	1,025 73	
Broadfoot, S.	" Accountant for nine months.	....	20 10	3 24	981 66	
Spence, F. H.	" 1st Class Exciseman for nine months	.....	17 46	2 16	855 36	
Bowman, A.	" " "	.....	17 46	2 16	855 36	
Egener, A.	" " "	.....	17 46	2 16	855 36	
O'Brien, E. C.	" 2nd Class Exciseman for nine months	.....	14 70	2 16	721 83	
Alteman, P. J.	" 1st " "	.....	29 25	2 16	806 04	
Howie, A.	" 3rd " "	.....	12 63	2 16	617 70	
Coutts, J. J	" 1st " "	41 85	.....	2 16	793 44	
Hanlon, J. R.	" 3rd Class Exciseman from July 1 to Dec. 31, 1906 and 2nd Class from Jan. 1 to Mar. 31, 1907	25 98	.....	2 16	491 85	
Martin, N.	" 3rd " "	25 62	.....	2 16	484 71	
Thomas, F. W	" Probationary 3rd Class from July 9 to Dec. 31, 1906, and 2nd Class from Jan. 1 to Mar. 31, 1907	22 56	.....	2 09	427 04	
	Salaries.	116 01	238 62	39 35	13,241 21	
	Contingencies	.....	.....	.....	837 07	
						14,078 28
	Hamilton.					
Miller, W. F.	Salary as Collector for nine months	....	36 00	10 80	1,753 20	
Cameron, D. M.	" Special Class Exciseman for nine months	.....	22 50	3 24	1,099 26	
Baby, W. A. D.	" " "	.....	27 00	3 24	1,319 76	
O'Brien, Jas	" Deputy Collector for nine months	62 46	.....	5 40	1,182 12	
Crawford, W. P	" Accountant for nine months.	.....	.....	3 24	1,021 76	
O'Brien, J. F.	" Special Class Exciseman for nine months	.....	18 96	3 24	927 75	
Dumbrille, R. W.	" 1st Class Exciseman for nine months	.....	17 46	2 16	855 36	
Hobbs, G. N.	" 1st " "	....	17 46	2 16	855 36	
Hayhurst, T. H.	" 1st " "	41 85	.....	2 16	793 44	
Boyd, J. F. S.	" 1st " "	.....	29 25	2 16	806 04	
Logan, J	" 2nd " "	....	14 70	2 16	721 83	
Amor, W	" 2nd " "	...	14 70	2 16	721 83	
Bishop, J. B	" 2nd " "	35 55	.....	2 16	674 10	
Cheseldine, J. H.	" 1st " "	41 85	.....	2 16	793 44	
Lawlor, J. J.	" 1st " "	41 85	.....	2 16	793 44	
Elliot, W. J.	" Probationary 3rd Class from July 1 to Sept. 28, 1906, 3rd Class from Sept. 29, 1906 to Feb. 13, 1907 and 2nd Class from Feb. 14 to Mar. 31, 1907	24 38	.....	2 16	461 48	
Kirkpatrick, H. J.	" " "	24 38	.....	2 16	461 48	
Blackman, C.	" Messenger for nine months.	26 22	.....	.....	498 78	
Beasley, M. C	" Probationary 3rd Class from Jan. 14 to Mar. 31, 1907.	5 36	.....	0 48	101 66	
Ballentine, A., jr.	" " "	5 36	.....	0 48	101 66	
	Salaries.	309 26	198 03	53 88	16,043 75	
	Contingencies	...	.....	.....	827 23	
						16,870 98

APPENDIX B.—No. 1.—Details of Excise Expenditures for the nine months ended March 31, 1907—*Continued.*

To whom paid.	Divisions.	Deductions for			Amounts paid.	Total amounts paid.
		Retirement.	Superannuation.	Guarantee.		
	Kingston.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Dickson, C. T.	Salary as Collector for nine months	.....	.....	5 40	1,344 60	
Grimason, T	" Deputy Collector for nine months	....	19 44	2 70	952 83	
Hanley, A.	" Accountant for nine months	.....	14 94	2 16	732 87	
Lyons, E	" 1st Class Exciseman for nine months	.....	17 46	2 16	855 36	
O'Donnell, J.	" Messenger for nine months	....	12 63	2 16	617 70	
Fahey, E.	" 3rd Class Exciseman for nine months	.....	12 15	2 16	593 19	
Hogan, J.	" " "	25 11	.....	2 16	475 23	
Montgomery, W. H	" " "	25 13	.....	2 16	475 50	
	Salaries	50 24	75 62	21 06	6,047 28	
	Contingencies	....	.....	.....	475 08	6,522 36
	London.					
Alexander, T	Salary as Collector for nine months	.....	.....	5 40	1,794 60	
Spereman, J. J	" Special Class Exciseman for nine months	.....	23 97	3 24	1,172 79	
Davis, T. G.	" Deputy Collector for nine months	.....	25 53	2 79	1,246 77	
Thrasher, W. A	" " "	63 78	.....	2 70	1,208 52	
Rose, J. A.	" " "	48 72	.....	2 70	923 58	
Coles, F. H.	" Accountant for nine months	.....	20 10	3 24	981 66	
Wilson, D.	" " "	.....	17 22	2 16	843 12	
Stewart, J.	" 1st Class Exciseman from July 1 to Dec. 31, 1906. Superannuated from Jany. 1, 1907	.....	11 46	1 44	562 08	
Lee, E.	" 1st Class Exciseman for nine months	....	17 46	2 16	855 36	
Girard, I.	1st " "	.....	17 46	2 16	855 36	
Boyle, P.	1st " (Insurance)	53 82	26 22	2 16	792 78	
Foster, H.	1st Class Exciseman for nine months	.....	29 25	2 16	806 04	
Webbe, C. E. A	" 2nd " "	.....	14 70	2 16	721 83	
Tracy, J. P.	" 2nd " "	.....	14 70	2 16	721 83	
Talbot, J.	" 3rd " "	31 50	.....	2 16	596 34	
Fleming, C.	" 3rd " "	22 86	.....	2 16	432 48	
Whitehead, J. P.	" Deputy Collector for nine months	24 36	.....	2 16	460 98	
Fiddes, Jas	" " "	22 50	.....	2 16	425 34	
Pleasance, W.	" Probationary 3rd Class from July 3, 1906, to Jan. 13, 1907, and 3rd Class from Jan. 14 to March 31, 1907	19 81	.....	2 14	374 77	
	Salaries	287 35	218 07	47 32	15,776 23	
	Contingencies	.....	.....	.....	651 11	16,427 34
	Ottawa.					
Freeland, A.	Salary as Collector for nine months	66 48	.....	5 40	1,258 08	
McGuire, T.	" Deputy Collector for nine months	48 72	.....	2 70	923 58	
Slattery, R.	1st Class Exciseman for nine months	.....	17 46	2 16	855 36	
Fox, T.	1st " "	.....	17 19	2 16	811 18	

APPENDIX B.—No. 1.—Details of Excise Expenditures for nine months ended March 31, 1907—*Continued.*

To whom paid.	Divisions.	Deductions for Retirement.	Deductions for Superannuation.	Deductions for Guarantee	Amounts paid.	Total amounts paid.
	Ottawa—Con.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Hinchey, E. H ...	Salary as Accountant for nine months.	.....	14 97	3 24	731 79	
Bennett, Jas.....	Deputy Collector for nine months	33 75	.....	2 16	639 09	
Laporte, G	" " "	.....	12 72	2 16	622 62	
Casey, J.....	" 3rd Class Exciseman for nine months	24 75	.... ..	2 16	468 09	
	Salaries	173 70	62 34	22 14	6,309 79	
	Contingencies, ...	.....	.....	.....	430 50	
						6,740 29
	Owen Sound.					
Graham, W. J ...	Salary as Collector for nine months....	.....	.....	2 70	1,167 27	
Johnson, J. J.....	" 1st Class Exciseman for nine months	.....	16 71	2 16	818 58	
Chisholm, W. N ..	" Deputy Collector for nine months	.....	16 53	2 70	805 77	
Blyth, A.....	" 2nd Class Exciseman from July 1 to Nov. 30, 1906. Removed to Belleville from Dec. 1, 1906	22 90	.....	1 20	434 20	
Cryderman, C. W.	" Deputy Collector for nine months	30 03	... .	2 16	567 81	
McFee, A. C.....	" 1st Class Exciseman from Dec. 1, 1906 to March 31, 1907.....	.....	12 80	0 96	352 88	
	Salaries	52 93	46 04	11 88	4,146 51	
	Contingencies.....	.....	... .	.....	475 29	
						4,621 80
	Perth.					
McLenaghan, N ..	Salary as Collector for nine months....	59 97	.....	5 40	1,134 63	
Mason, F.	" Special Class Exciseman for nine months.....	.....	25 53	3 24	1,246 23	
Goodman, A. W..	" 1st Class Exciseman for nine months	.....	17 46	2 16	855 36	
Noonan, H. T	" Deputy Collector for nine months	32 04	... .	2 70	606 51	
Clarke, T....	" " " .. .	31 89	. .....	2 16	603 45	
Rowan, W. E.....	" " "	18 78	.....	2 16	354 06	
Egan, W.....	" " "	.....	.....	2 16	297 81	
Baikie, D.....	" " "	18 78	.....	2 70	353 52	
George, J.....	" " " ...	8 81	.....	2 16	165 60	
Maurice, E.....	" " "	14 97	.....	2 16	282 87	
Murphy, J. L.....	" Deputy Collector from July 1 to Aug. 31, 1906. Resigned Sept. 1, 1906.....	0 82	.....	0 48	15 36	
	Salaries	186 06	42 99	27 48	5,915 40	
	Contingencies.....	.....	.....	.....	851 26	
						6,766 66
	Peterborough.					
Rudkins, W.....	Salary as Collector for nine months..	50 25	.....	2 70	952 05	
Rork, T...	" Deputy Collector " ..	37 47	. .. ..	2 70	709 83	
Howden, R..... .	" " " ..	.....	12 03	2 16	585 81	
Bickle, J. W.	" " " ..	.....	10 47	2 16	512 37	
	Salaries.	87 72	22 50	9 72	2,760 06	
	Contingencies.....	.....	.....	..... .	285 18	
						3,045 24

APPENDIX B.—No. 1.—Details of Excise Expenditures, for nine months ended March 31, 1907—*Continued.*

To whom paid.	Divisions.	Deductions for			Amounts paid.	Total amounts paid.
		Retirement.	Superannuation.	Guarantee.		
	Port Arthur.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Ironside, G. A....	Salary as Collector for nine months....	....	.....	2 70	847 26	
Bridgman, M. W.	" 3rd Class Ex. from July 1 to Dec. 31, 1906, and 2nd Class from Jan. 1 to March 31, 1907.....	25 62	.....	2 16	484 71	
Aaron, J. D	" " " ..	5 58	.....	2 16	104 76	
	Salaries.	31 20	.....	7 02	1,436 73	
	Contingencies.....	.....	.....	.....	124 19	
						1,560 92
	Prescott.					
Keilty, T.	Salary as Collector for nine months...	.....	30 03	5 40	1,464 57	
Gerald, W. H.....	" Special Class Exciseman for nine months.....	.....	27 00	3 24	1,319 76	
Macdonald A. B..	" " " ..	. .	21 03	3 24	1,025 73	
Melville, T. R....	" Deputy Collector for nine months	56 25	.....	2 70	1,066 05	
Keeler, G. S.....	" 2nd Class Exciseman for nine months.	.....	14 70	2 16	721 83	
Wood, J. A.....	" Deputy Collector for nine months.....	.....	.....	2 16	672 84	
White J. B. ...	" " " ..	24 36	.....	2 16	460 98	
Marshall, I. N...	" 3rd Class Exciseman for nine months	26 22	.. ..	2 16	496 62	
McPherson, E. A.	" 3rd Class Exciseman from July 1 to Dec. 31, 1906, and 2nd Class from Jan. 1 to March 31, 1907.....	27 12	.....	2 16	479 73	
	(Insurance).	33 48				
Byrne, W. P.....	" Probationary 3rd Class Exciseman from March 18 to March 31, 1907.....	0 94	.. ..	0 10	17 77	
	Salaries.	168 37	92 76	25 48	7,725 88	
	Contingencies....	.....	....	.....	920 66	
						8,646 54
	St. Catharines.					
Hesson, C. A.. ...	Salary as Collector for nine months....	.....	20 79	5 40	1,013 79	
Harris, J. G.....	" Deputy Collector from July 1, 1906 to January 31, 1907.....	.....	20 37	1 68	561 26	
Milliken, E..	" 2nd Class Exciseman for nine months	.....	14 70	2 16	721 83	
Schram, R. L. H..	" " " ..	...	24 87	2 16	684 78	
Simpson, W. A...	" 1st " " ..	39 96	.....	2 16	757 86	
Johnston, H. J....	" Deputy Collector Class 'A' from March 18 to March 31, 1907.....	1 88	.....	0 10	35 65	
	Salaries.	41 84	80 73	13 66	3,775 17	
	Contingencies..	....	... . .	.....	298 90	
						4,074 07
	Stratford.					
Rennie, G.....	Salary as Collector for nine months....	.....	26 58	5 40	1,297 98	

APPENDIX B.—No. 1.—Details of Excise Expenditures for nine months ended March 31, 1907—*Continued.*

To whom paid.	Divisions.	Deductions for			Amounts paid.	Total amounts paid.
		Retirement.	Superannuation.	Guarantee		
	Stratford—Con.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Tobin, T. S.	Salary as Deputy Collector for nine months	46 05		2 70	852 76	
	" (Insurance)	19 70				
Hicks, W. H.	" " "		14 97	2 16	732 87	
Young, R. E.	" 1st Class Exciseman for nine months	41 85		2 16	793 44	
Jeffrey, A. J.	" Deputy Collector for nine months	30 81		2 16	583 65	
Dalton, M. J.	" " "	29 97		2 70	567 27	
	Salaries	168 38	41 55	17 28	4,827 97	
	Contingencies				377 07	
						5,205 04
	Toronto.					
Frankland, H. R.	Salary as Collector for nine months	90 00		10 80	1,699 20	
Gerald, C.	" Special Class Exciseman for nine months		27 00	3 24	1,319 76	
Henderson, W.	" Deputy Collector for nine months		25 53	2 70	1,246 77	
Boomer, J. B.	" Accountant for nine months		22 50	3 24	1,099 26	
Mackenzie, J. H.	" Deputy Collector for nine months	62 46		2 70	1,184 82	
Metcalf, W. F.	" Special Class Exciseman for nine months		21 03	3 24	1,025 73	
Boyd, S. I.	" Deputy Collector for nine months		18 00	2 16	879 84	
Dick, J. W.	" Special Class Exciseman for nine months		21 03	3 24	1,025 73	
Evans, G. T.	" " "		21 03	3 24	1,025 73	
Jamieson, R. C.	" " "		21 03	3 24	1,025 73	
Flynn, D. J.	" " "		19 71	3 24	964 53	
Shanacy, M.	" Deputy Collector for nine months		16 53	2 16	806 31	
Elliott, T. H.	" (Insurance)	31 32 43 14		2 16	785 88	
Dudley, W. H.	" 1st Class Exciseman for nine months		17 46	3 24	854 28	
Coleman, C.	" Deputy Collector for nine months		14 97	2 16	732 87	
Helliwell, H. N.	" 1st Class Exciseman for nine months		17 46	2 16	855 36	
O'Leary, T. J.	" " "		17 46	2 16	855 36	
Graham, W. T.	" " "		17 46	2 16	855 36	
Doyle, B. J.	" " "		17 46	2 16	855 36	
Cook, W. R.	" " "		17 46	2 16	855 36	
Howard, W. W. S.	" " "		17 46	2 16	855 36	
Hurst, L. B.	" Special Class Exiseman for nine months		18 00	3 24	878 76	
Wardell, R. S. R.	" 1st Class Exciseman for nine months		30 60	2 16	842 22	
Barber, J. S.	" 2nd " "		14 70	2 16	721 83	
Murray, A. E.	" " "		14 70	2 16	721 83	
Dager, H. J.	" Deputy Collector for nine months	33 75		2 16	639 09	
Coulter, A.	" 1st Class Exciseman for nine months		29 25	2 16	806 04	
Ritchie, H.	" Deputy Collector for nine months	37 47		2 16	710 37	

APPENDIX B.—No. 1.—Details of Excise Expenditures for nine months ended March 31, 1907—*Continued.*

To whom paid.	Divisions.	Deductions for Retirement.	Deductions for Superannuation.	Deductions for Guarantee.	Amounts paid.	Total amounts paid.
	Toronto—Con.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Jones, A.	Salary as 3rd class Exciseman for nine months	..	12 63	2 16	617 70	
Falconer, R. H.	" 1st " " "	41 85	.....	2 16	793 44	
Graham, A. L.	" " " "	41 85	.....	2 16	793 44	
Burns, R. J.	" " " "	41 85	.....	2 16	793 44	
Mahoney, H.	" " " "	41 85	.....	2 16	793 44	
Gillies, A. C.	" " " "	39 96	.....	2 16	757 86	
Walsh, W. H.	" 2nd Class from July 1 to Dec. 31, 1906 and 1st Class from Jan. 1 to March 31, 1907	34 74	.....	2 16	659 31	
Fielding, L. G.	" Stenographer for nine months	16 71	.....	.....	318 24	
Brentnall, F. F.	" Deputy Collector for nine months	41 28	.....	2 16	781 56	
	Salaries	598 23	470 46	97 20	32,437 17	
	Contingencies	.. ..	.....	.....	1,165 51	
						33,602 68
	Windsor.					
McSween, J.	Salary as Collector for nine months	.....	33 45	10 80	1,630 71	
Bouteiller, G. A.	" Special Class Exciseman for nine months	.....	27 00	3 24	1,319 76	
Marion, H. R.	" Deputy Collector for nine months	62 46	.....	5 40	1,182 12	
Dunlop, C.	" " " "	.....	19 47	2 70	952 83	
Brennan, J.	" Special Class Exciseman for nine months	... ..	21 03	3 24	1,025 73	
Belleperche, A. J. E	" Accountant for nine months	50 25	.....	3 24	951 51	
Marcon, F. E.	" 1st Class Exciseman for nine months	.....	5 49	0 72	198 50	
Keogh, P. M.	" Deputy Collector for nine months	.....	14 97	2 70	732 33	
Thomas, R.	" 1st Class Exciseman for nine months	.....	17 46	2 16	855 36	
Bayard, G. A.	" " " "	.....	17 46	2 16	855 36	
Brain, A. F.	" " " "	....	30 91	2 16	850 05	
Berry, H. L.	" " (Insurance)	18 54 41 85	.....	2 16	774 90	
Jubenville, J. P.	" 2nd Class Exciseman for nine months	.....	14 28	2 16	701 01	
Falconer, J.	" 3rd " " "	.....	12 63	2 16	617 70	
Cahill, J. W.	" " " "	....	12 63	2 16	617 70	
Neil, J.	" 1st " " "	41 85	.....	2 16	793 44	
Chilver, F. W.	" " " "	41 85	.....	2 16	793 44	
McArthur, G. A.	" Special Class Exciseman for nine months	45 00	.....	3 24	851 76	
Beneteau, S.	" 1st Class Exciseman for nine months	39 96	.....	2 16	757 86	
Adam, A. R	" 3rd " " "	25 11	.....	2 16	475 23	
Love, G. G.	" 3rd Class Exciseman from July 1 to Dec. 31, 1906 and 2nd Class from Jan. 1 to Mar. 31, 1907	26 34	.... ..	2 16	498 99	
Bergeron, R. J.	" Probationary 3rd Class from Oct. 17, 1906 to Mar. 31, 1907	11 40	.....	1 31	215 74	
	Salaries	404 61	226 78	62 51	17,652 03	
	Contingencies	....	.....	.....	914 84	
						18,566 87

APPENDIX B.—No. 1.—Details of Excise Expenditures for nine months ended March 31, 1907—*Continued.*

To whom paid.	Divisions.	Deductions for			Amounts paid.	Total amounts paid.
		Retirement.	Superannuation.	Guarantee		
	Joliette.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Labelle, L. V.	Salary as Collector for nine months	66 48		2 70	1,260 78	
Gow, J. E.	" Special Class Exciseman for nine months		21 96	3 24	1,074 78	
Bernier, J. A.	" 1st " "	41 85		2 16	793 44	
Daveluy, J. P.	" 3rd " "	31 62		2 16	598 71	
Ralston, T.	" Deputy Collector "	28 08		2 70	531 72	
Gamache, J. N.	" " "	33 75		1 35	639 90	
Olivier, H.	" Probationery Exciseman for nine months	24 75		2 16	468 09	
Forest, M.	" Deputy Collector for nine months	7 53		2 70	139 77	
Bourgeois, C.	" Probationary Exciseman from July 1. to August 5, 1906, and 3rd Class from August 31, 1906 to March 31, 1907	22 01		2 16	416 13	
	Salaries	256 07	21 96	21 33	5,923 32	
	Contingencies				656 09	
						6,578 41
	Montreal.					
Toupin, J. A.	Salary as Collector for nine months		33 45	10 80	1,630 71	
Caven, W.	" Deputy Collector "		25 53	5 40	1,244 07	
Forest, E. R.	" Accountant "		21 03	5 40	1,023 57	
Fox, J. D.	" " "		22 50	3 24	1,699 26	
Lane, T. M.	" " "		18 78	2 16	916 56	
Walsh, D. J.	" Special Class Exciseman for nine months		23 28	3 24	1,135 98	
Scullion, W. J.	" 2nd " "		17 46	2 16	855 36	
Normandin, G.	" Special " "	41 84		2 16	793 44	
Chagnon, C. P.	" Deputy Collector for nine months	37 47		5 40	707 13	
Dumouchel, L.	" 2nd Class Exciseman for nine months		14 70	2 16	721 83	
Courtney, J. J.	" 2nd " "		14 70	2 16	721 83	
Verner, F.	" 2nd " "		14 70	2 16	721 83	
Dixon, H. G. S.	" 2nd " "		14 70	2 16	721 83	
Andrews, A. A.	" 2nd " "		25 83	2 16	710 70	
Codd, H. J. S.	" 2nd " "		14 70	2 16	721 83	
Renaud, A. H.	" 1st " "		29 25	2 16	806 04	
Desauliners, J.E.A	" 1st " "	41 85		2 16	793 44	
Laurier, J. L.	" 2nd " "	35 55		2 16	674 10	
Snowden, J. W.	" 1st " "	45 00		3 24	851 76	
Millier, E.	" 3rd " "		12 63	2 16	617 70	
Panneton, G. E.	" 3rd " "		12 63	2 16	617 70	
Costigan, J. J.	" 3rd " "		12 15	2 16	593 19	
O'Flaherty, E. J.	" 3rd " "		12 63	2 16	617 70	
Brabant, J.B.G.N.	" 3rd " "		14 16	2 16	695 49	
Bélair, A. P.	" 3rd " "		12 63	2 16	617 70	
Ryan, W.	" 3rd " "	31 62		2 16	598 71	
Mainville, C. P.	" 3rd " "		12 63	2 16	617 70	
Comte, L. A. A. J.	" 2nd " "		24 87	2 16	684 78	
Kearney, D. J.	" 1st " "	41 85		2 16	793 44	
Bousquet, J. O.	" 1st " "	41 85		2 16	793 44	
Lambert, J. A.	" 2nd " "	35 55		2 16	674 10	
Maranda, N. A.	" 3rd " "	28 08		2 16	532 26	
David, T.	" 3rd Class Exciseman from July 1 to December 31, 1906, and 2nd Class from Jan. 1 to March 31, 1907	35 82		2 16	679 47	

APPENDIX B.—No. 1.—Details of Excise Expenditures for nine months ended March 31, 1907—*Continued.*

To whom paid.	Divisions.	Deductions for			Amounts paid.	Total amounts paid.
		Retirement.	Superannuation.	Guarantee.		
	Montreal—Con.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Harwood, J. O. A.	Salary as 2nd Class Exciseman for nine months	35 55		2 16	674 10	
Bruyere, H. P.	" Deputy Collector from July 1 to Oct. 1, 1906. Resigned	8 10		0 90	153 48	
Patterson, C.E.A.	" Deputy Collector for nine months	28 08		2 70	531 72	
Marin, L. H.	" 3rd Class Exciseman for nine months	27 00		2 16	510 84	
Gauvin, E.	" 2nd " "	35 55		2 16	674 10	
St. Michel, F. X.	" Deputy Collector for nine months	18 78		2 70	353 52	
Lamoureux, J. A.	" 2nd Class Exciseman for nine months	33 93		2 16	643 86	
Crevier, J. H.	" 3rd " "	23 97		2 16	453 87	
Longtin, H.	" 2nd Class Exciseman from July 1 to Dec. 31, 1906, and 1st Class from Jan. 1 to March 31, 1907	34 74		2 16	659 31	
Thurber, G.	" 3rd Class Exciseman for nine months	23 22		2 16	439 62	
Milot, J. F.	" 3rd Class Exciseman from July 1 to Dec. 31, 1906, and 2nd Class from Jan. 1 to March 31, 1907	25 98		2 16	491 85	
Ledoux, A.	" Stenographer for nine months	16 71		2 16	316 08	
Graveline, D. P.	" Probationary 3rd Class from July 1 to Aug. 5, 1906, and 3rd Class from August 6, 1906, to March 31, 1907	22 01		2 16	416 13	
O'Donnell, M. J.	" Messenger	25 83			491 67	
Gariepy, L. N.	" Probationary Exciseman from Jan. 14 to March 31, 1907	5 36		0 48	101 66	
	Salaries	781 29	404 94	121 26	32,896 46	
	Contingencies				4,296 36	
						37,192 82
	Quebec.					
LaRue, G.	Salary as Collector from July 1, 1906, to Mar. 1, 1907		32 00	4 80	1,563 20	
Cahill, J. H.	" Deputy Collector for nine months			2 70	1,272 24	
Patry, J. H.	" Deputy Collector for nine months	62 46		2 70	1,184 82	
Taylor, G. W.	" Special Class Exciseman for nine months		25 53	3 24	1,246 23	
Coleman, J. J.	" 1st " "		17 46	2 16	855 36	
LaRue, A.	" Deputy Collector for nine months		23 58	2 70	648 72	
Bourget, O.	" Unclassified Exciseman from July 1 to Dec. 31, 1906, and 2nd Class from Jan. 1 to Mar. 31, 1907		12 72	2 16	622 62	
Lemoine, J.	" 3rd Class Exciseman for nine months		12 63	2 16	617 70	
LaRue, A. P.	" Deputy Collector from July 1 to Sept. 30, 1906	10 62		0 90	200 97	
Beaulieu, J. B.	" 3rd Class Exciseman for nine months		21 82	2 16	600 39	

APPENDIX B.- No. 1.—Details of Excise Expenditure for nine months ended March 31, 1907—*Continued.*

To whom paid.	Divisions.	Deductions for			Amounts paid.	Total amounts paid.
		Retirement.	Superannuation.	Guarantee		
	Quebec—Con.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Pelletier, H. G....	Salary as Deputy Collector for nine months	18 78	... ...	2 70	353 52	
Timmons, R.....	" 2nd Class Exciseman from July 1 to Dec. 31, 1906, and 1st Class from Jan. 1 to Mar. 31, 1907....	34 74	.....	2 16	659 31	
Murray, D.....	" 1st Class Exciseman from July 1, 1906, to Mar. 31, 1907....	.....	17 46	2 16	855 36	
Rouleau, C. E....	" Probationary Exciseman from July 1 to Aug. 5, 1906, and 3rd Class from Aug. 6, 1906, to Mar. 31, 1907.....	21 86	.....	2 16	413 33	
Courchesne, P. H. E	" Deputy Collector for nine months	7 53	.....	1 35	141 12	
Guay, A. L.....	" Probationary 3rd Class from Oct. 4, 1906, to Mar 31.1907.	12 28	.....	1 41	232 23	
Martineau, E. J. E.	" Probationary 3rd Class from Oct. 5, 1906, to Mar. 31,1907.	12 21	.....	1 40	230 97	
Poitras, W.....	" Probationary 3rd Class from Jan. 14 to Mar. 31. 1907 ...	5 36	.....	0 48	101 66	
Arcand, D..	" Collector from Mar. 8 to Mar. 31. 1907.....	6 45	....	0 46	122 11	
	Salaries....	192 29	163 20	39 96	11,921 86	
	Contingencies.....	.....	.....	.....	5,545 80	
						17,467 66
	Sherbrooke.					
Simpson, A. F....	Salary as Collector for nine months.....	.....	27 00	5 40	1,317 60	
Quinn, J. D	" Special Class Exciseman for nine months.....	.....	21 03	3 24	1,025 73	
Chartier, E.... .	" Deputy Collector for nine months	48 72	.....	2 70	923 58	
Bowen, F. C.....	" 3rd Class Exciseman for nine months	31 62	.....	2 16	598 71	
de Grosbois, C. B.	" 3rd " " ..	28 62	.....	2 16	542 97	
Rousseau, E. H...	" Deputy Collector for nine months	26 22	.....	2 70	496 08	
	Salaries.....	135 18	48 03	18 36	4,904 67	
	Contingencies.....	....	.....	.... . .	584 60	
						5,489 27
	St. Hyacinthe.					
	(Ins.)	9 76				
Benoit, L. V.. ..	Salary as Collector for nine months....	66 03	.. ...	5 40	1,238 81	
Brennan, D. J....	" Special Class Exciseman for nine months.....	...	18 00	3 24	878 76	
Fortier, J. J. O...	" Deputy Collector for nine months	.....	14 94	2 16	732 87	
	(Ins.)	11 42				
Bernard, N. J. D..	" 1st Class Exsiceman for nine months	39 96	.. ....	2 16	746 44	
Langelier, F.....	" Deputy Collector for nine months	41 21	.... ..	2 70	781 03	
Poirier, J. N.... .	" " " ..	....	20 97	2 16	576 81	
Deland, A. N.....	" " " ..	30 03		2 70	567 27	
	(Ins.)	4 54	.....			

APPENDIX B.—No. 1.—Details of Excise Expenditures for nine months ended March 31, 1907—*Continued.*

To whom paid.	Divisions.	Deductions for			Amounts paid.	Total amounts paid.
		Retirement.	Superannuation.	Guarantee		
	St. Hyacinthe—Con.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Dumaine, J. D.	Salary as 1st Class Exciseman for nine months	38 07	.....	2 16	717 71	
Rouleau, J. C.	" " "	38 07	.....	2 16	722 25	
McGuire, L. J.	" 2nd Class Exciseman from July 1 to Dec. 31, 1906, and 1st Class from Jan. 1 to Mar. 31, 1907	34 74	.....	2 16	659 31	
Tétreault, J.	" Deputy Collector for nine months	5 58	.....	2 70	104 22	
Portelance, P. A.	" " "	3 72	.....	1 35	69 93	
Desmarais, H. F.	" Deputy Collector from July 1 to Aug. 1, 1906	0 41	.....	0 30	7 62	
	Salaries	323 54	53 91	31 35	7,803 03	
	Contingencies	.....	.....	.....	2,102 11	
						9,905 14
	Three Rivers.					
Hébert, C. D.	Salary as Collector for nine months	.....	20 79	2 70	1,016 49	
Duplessis, C. Z.	" Deputy Collector for nine months	.....	14 97	2 70	732 33	
Auger, L. H.	" 3rd Class Exciseman for nine months	24 75	.....	2 16	468 09	
Morrissette, F. R.	" Deputy Collector for nine months	3 72	.....	1 35	69 93	
	Salaries	28 47	35 76	8 91	2,286 84	
	Contingencies	.....	.....	.....	193 70	
						2,480 54
	St. John.					
Belyea, T. H.	Salary as Collector for nine months	.....	26 58	5 40	1,297 98	
Clarke, J. A.	" Deputy Collector for nine months	.....	19 47	2 70	952 83	
McCloskey, J. R.	" Special Class Exciseman for nine months	.....	18 00	3 24	878 76	
Fitzpatrick, W. J.	" 1st " "	.....	17 46	2 16	855 36	
Geldart, O. A.	" Special " "	.....	18 00	3 24	878 76	
Ferguson, J. C.	" 1st " "	.....	16 71	2 16	818 58	
McGowan, J.	" Probationary 3rd Class from July 1 to Aug. 5, 1906, 3rd Class from Aug. 6 to Dec. 31, 1906, and 2nd Class from Jan. 1 to Mar. 31, 1907	25 13	.....	2 16	475 50	
Dibblee, W.	" Deputy Collector for nine months	.....	2 79	2 16	220 05	
Dwyer, T. D.	" " "	7 53	.....	2 70	139 77	
	Salaries	32 66	119 01	25 92	6,517 59	
	Contingencies	.....	.....	.....	1,034 88	
						7,552 47
	Halifax.					
Grant, H. H.	Salary as Collector for nine months	.....	30 03	5 40	1,464 57	
King, R. M.	" Deputy Collector for nine months	.....	22 44	2 70	1,097 34	
James, T. C.	" Accountant for nine months.	.....	17 46	3 24	854 28	

APPENDIX B.—No. 1.—Details of Excise Expenditures for nine months ended March 31, 1907.—*Continued.*

To whom paid.	Divisions.	Deductions for			Amounts paid.	Total amounts paid.
		Retirement.	Superannuation.	Guarantee.		
	Halifax—Con.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Carroll, D.	Salary as 1st Class Exciseman for nine months		17 46	2 16	855 36	
Blethen, C. W.	" 1st " " "		17 46	2 16	855 36	
Hubley, H. H.	" 1st " " "		16 71	2 16	818 58	
Gorman, A. M.	" 1st " " "		16 71	2 16	818 58	
Wainright, F. G.	" 2nd " from July 1, 1906 to March 1, 1907		13 04	1 92	640 40	
Tompkins, P.	" 3rd Class Exciseman for nine months		12 63	2 16	617 70	
Hagarty, P.	" 3rd " " "			2 16	615 33	
Munro, H. D.	" 3rd " " "		12 33	2 16	603 00	
Waddell, S. J.	" Deputy Collector for nine months	14 97		2 70	282 33	
	Salaries	14 97	176 27	31 08	9,522 83	
	Contingencies				297 87	
						9,820 70
	Pictou.					
Fraser, P.	Salary as Collector for nine months		16 95	2 70	830 31	
Macdonald, A. J.	" Deputy Collector for nine months	28 08		2 16	532 26	
Carroll, F. P.	" 3rd Class Exciseman for nine months	27 00		2 16	510 84	
	Salaries	55 08	16 95	7 02	1,873 41	
	Contingencies				322 69	
						2,196 10
	Charlottetown.					
Nash, S. C.	Salary as Collector for nine months			2 70	1,037 28	
Moore, T.	" Deputy Collector for nine months		14 97	2 16	732 87	
	Salaries		14 97	4 86	1,770 15	
	Contingencies				58 56	
						1,828 71
	Winnipeg.					
Gosnell, T. S.	Salary as Collector for nine months		36 00	5 40	1,758 60	
Code, A.	" Deputy Collector for nine months		24 75	2 70	1,210 05	
Long, W. H.	" Accountant "	47 25		3 24	894 51	
Hawkins, W. L.	" " "		18 00	3 24	878 76	
Girdlestone, R. J. M.	" Deputy Collector for nine months		14 97	2 16	732 87	
Verner, T. H.	" 1st Class Exciseman for nine months		29 25	2 16	806 04	
LaRivière, A. C.	" " "		29 25	2 16	806 04	
Sparling, J. W.	" Deputy Collector "	37 47		2 16	710 37	
Conklin, W. M.	" 1st Class Exciseman "	41 85		2 16	793 44	
Barnes, G.	" Deputy Collector "	22 50		2 16	415 34	
Earl, R. W.	" " "	38 07		2 16	722 25	
Hammond, T. W.	" 3rd Class Exciseman "	23 22		2 16	439 62	
Morris, T. H.	" " "	23 22		2 16	439 62	
Ross, H. E.	" Deputy Collector "		8 94	2 16	288 90	
Jameson, S. B.	" " "		6 75	2 16	216 09	
McNiven, J. D.	" " "	13 11		2 16	247 23	

APPENDIX B.—No. 1.—Details of Excise Expenditures for nine months ended March 31, 1907—*Continued.*

To whom paid.	Divisions.	Deductions for			Amounts paid.	Total amounts paid.
		Retirement.	Superannuation.	Guarantee		
	Winnipeg—Con.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Jefferey, E. J ...	Salary as Probationary 3rd Class from Jan. 24, to Mch. 31, 1907...	4 70	.....	48	88 89	
	Salaries	251 39	167 91	40 98	11,458 62	
	Contingencies	.....	.....	.....	2,852 91	
						14,311 53
	Calgary.					
Saucier, H..	Salary as Collector for nine months....	....	23 30	2 70	1,139 90	
Fletcher, R. W....	" Deputy Collector for nine months.....	31 50	.. ....	2 70	595 80	
Harbottle, N.....	" " "	37 47	.....	2 70	709 83	
Walker, J. H.....	" " "	11 25	.....	2 16	211 59	
Kenny, J..... ...	" " "	12 07	.....	2 70	226 89	
	Salaries	92 29	23 30	12 96	2,884 01	
	Contingencies	....	.... ..	.. ....	2,785 96	
						5,669 97
	Vancouver.					
Miller, J. E	Salary as Collector for nine months....	.....	27 00	5 40	1,317 60	
Allen, G. A. ...	" Special Class Exciseman for nine months..	... ..	24 75	3 24	1,209 51	
Parkinson, E. B..	" Deputy Collector for nine months.....	48 72	.....	2 70	923 58	
McCraney, H. P..	" " " ..	33 75	.....	2 70	638 55	
Swannell, F. W...	" " " ..	45 00	.....	2 70	852 30	
Power, J. F.....	" Accountant for " ..	34 53	.....	3 24	652 23	
Wolfenden, W....	" Deputy Collector " ..	27 45	.....	2 70	519 81	
Thorburn, J.....	" 3rd Class Exciseman " ..	28 08	.....	2 16	532 26	
McCutcheon, H.M	" Deputy Collector " ..	22 50	.. ...	2 70	424 80	
Hodder, W. E....	" " " ..	22 50	.....	2 70	424 80	
Howell, T..	" " " ..	18 78	.....	2 70	353 52	
Marrion, A. H....	" 3rd Class Exciseman " ..	22 86	.....	2 16	432 48	
Deeley, F.	" 3rd Class Exciseman from July 1 to December 31, 1906, and 2nd Class from January 1 to March 31, 1907..	25 62	.....	2 16	484 71	
Keay, W. S..	" Deputy Collector for nine months.....	14 97	....	2 70	282 33	
Parsons, C. H....	" " " " ..	7 53	.....	2 70	139 77	
McGregor, D. C..	" " " " ..	7 53	.....	2 70	139 77	
Gray, R. S..	" " from March 1 to March 31, 1907	2 91	.....	0 24	55 18	
	Salaries.....	362 73	51 75	45 60	9,383 20	
	Contingencies.....	.....	... ...	.....	3,646 01	
						13,029 21
	Victoria.					
Jones, R..... ..	Salary as Collector for nine months....	...	27 00	5 40	1,317 60	
O'Sullivan, D....	" Deputy Collector " ..	....	34 14	2 70	938 16	
Henwood, G.....	" 1st Class Exciseman for nine months	.....	17 46	2 16	855 36	
Ridgeman, A. H..	" 1st Class Exciseman for nine months.....	.....	29 25	2 16	806 04	
McAloney, J. A...	" Deputy Collector for nine months.....	14 97	..... .	2 70	282 33	
	Salaries	14 97	107 85	15 12	4,199 49	
	Contingencies.....	. ..	.....	... ...	881 68	
						5,081 17

APPENDIX B.—No. 1.—Details of Excise Expenditures for nine months ended March 31, 1907—*Continued.*

To whom paid.	Districts.	Deductions for			Amounts paid.	Total amounts paid.
		Retirement.	Superannuation.	Guarantee		
	Yukon.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
MacDonald, J. F..	Salary as Collector for nine months....	37 44	.....	5 40	.....	707 13
	DISTRICT INSPECTORS.					
	Ontario.					
Dingman, N. J....	Salary for nine months.....	.....	37 50	6 75	1,830 75	
	Contingencies	.....	.....	.....	439 40	2,270 15
Stratton, W. C ...	Salary for nine months.....	.....	.....	6 75	1,868 25	
	Contingencies	.....	.....	.....	234 32	2,102 57
Kenning, J. H....	Salary for nine months.....	.....	.....	6 75	1,868 25	
	Contingencies	.....	.....	.....	369 39	2,237 64
	Quebec.					
Lawlor H.....	Salary for nine months	.....	37 50	6 75	1,830 75	
	Contingencies	.....	.....	.....	232 21	2,062 96
Rinfret, C. I.....	Salary for nine months	93 75	.....	6 75	1,774 50	
	Contingencies	.....	.....	.....	217 06	1,991 56
	New Brunswick.					
Burke, T.....	Salary for nine months.....	.....	37 50	6 75	1,830 75	
	Contingencies	.....	.....	.....	421 35	2,152 10
	Manitoba.					
Barrett, J. K.....	Salary for nine months.....	.....	37 50	6 75	1,830 75	
	Contingencies	.....	.....	.....	1,494 42	3,325 17
	British Columbia.					
Gill, W.....	Salary for nine months.....	.....	.....	6 75	1,868 25	
	Contingencies	.....	.....	.....	173 90	2,042 15
	Inspector of Bonded Factories.					
Stratton, W. C....	Salary for nine months	.....	.....	.....	225 00	
	Contingencies	.....	.....	.....	102 98	327 98
	Inspector of Breweries and Malt Houses.					
Barrett, J. K.....	Salary for nine months.....	.....	4 50	.....	220 50	
	Contingencies	.....	.....	.....	526 30	746 80
	Inspector of Distilleries.					
Kenning, J. H....	Salary for nine months.....	.....	.....	.....	225 00	
	Contingencies	.....	.....	.....	98 13	323 13
	Inspector of Tobacco Factories.					
Lawlor, H.....	Salary for nine months.....	.....	4 50	.....	220 50	
	Contingencies	.....	.....	.....	11 53	232 03

APPENDIX B.—No. 1.—Details of Excise Expenditures for nine months ended March 31, 1907—*Continued.*

To whom paid.	Service.	Amounts paid.	Total amounts paid.
	General Contingencies.	$ cts.	$ cts.
American Bank Note Co.	To pay for stamps and labels supplied	43,366 78	
British American Bank Note Co.	To pay for bottling labels	6,011 00	
Oertling, L.	Padlocks, seals, hydrometers, &c	1,609 23	
Department of Customs.	Customs duties paid on goods imported	324 43	
The Pritchard & Andrews Co	Rubber pads, rollers, daters and general repairs	186 84	
Gerald, W. H.	Travelling expenses	45 20	
Gerald, Charles	"	185 05	
Taylor, G. W.	"	25 05	
Stratton, W. C.	"	58 00	
Rinfret, C. I.	"	69 10	
Registrar of Exchequer Court	Writs of assistance	11 60	
Harrison & Co	Etching chemicals	9 00	
Carson, Hugh	2 trunks	24 00	
Canadian Express Co.	Express charges	59 97	
Dominion Express Co.	"	27 75	
Thornton & Trueman	Repairing locks, seals and keys	76 90	
Whitehead, Mrs J.	Cleaning storerooms, &c	133 50	
Himsworth, W.	Petty expenses	0 50	
			52,223 90
	Total general contingencies		
	Law Costs.		
Robitaille & Roy	Law costs in *re* Rex *vs.* N. Claisse		27 40
Desrivieres, Eugéne	" " Jean Rousseau		43 00
Chisholm, D. C.	" " Jno. McDonald		36 00
Cantin, P.	" " C. Beaurivage	20 00	
"	" " G. Bergeron	15 00	
			35 00
Lanctot, H.	" " I. Harrick		32 00
McHarg, W. H.	" " G. Amberg		30 00
	Total for law costs		203 40

APPENDIX E.—No. 1.—Details of Excise Expenditures for nine months ended March 31, 1907.—*Continued.*

To whom paid.	Place of Residence.	Service.	Amounts Paid.	Total amounts paid.
		Commission to Customs Officers.	$ cts.	$ cts.
Valleau, A. S.	Deseronto, Ont.	From July 1, 1906 to March 31, 1907	31 43	
Ross, W. T.	Picton, Ont.	" "	50 88	
Fraser, R.	Trenton, Ont	" "	147 30	
Allison, J. B.	Napanee, Ont.	" "	147 30	
Brodeur, S. A.	Valleyfield, Que.	" "	184 80	
Blair, Alex	Chicoutimi, Que.	" "	81 80	
Kavanagh, A. J.	Gaspé, Que.	" "	109 80	
Ratchford, C. E.	Amherst, N.B.	" "	101 45	
Britton, W. H.	Gananoque, Ont.	" "	109 80	
Watson, G.	Collingwood, Ont	" "	147 30	
Macpherson, M. J.	Kincardine, Ont.	" "	16 27	
Brown, G.	Meaford, Ont.	" "	147 30	
Daly, James	Campbellford, Ont.	" "	109 80	
Lownsborough, W.	Lindsay, Ont.	" "	109 80	
Watt, G.	Chatham, N.B.	" "	184 80	
Street, A. F.	Fredericton, N.B.	" "	184 80	
Park, W. A	New Castle, N.B.	" "	109 80	
Anderson, J. S.	Sackville, N.B.	" "	109 80	
Kirk, J. T.	Sussex, N.B.	" "	81 35	
Boyd, A.	Antigonish, N.S.	" "	64 24	
McDonald, J. F	New Glasgow, N.S.	" "	184 80	
McPherson, Jos.	North Sydney, N.S.	" "	94 30	
English, J. J.	Maple Creek, N.W.T.	" "	23 00	
Walton, E. J. R	Medicine Hat, N.W.T	" "	107 48	
McIntyre, W. M.	Moose Jaw, N.W.T.	" "	18 62	
Pond, J. T.	Morden, Man.	" "	109 80	
Jackson, H. B.	Rainy River, Man.	" "	147 30	
Gilhuly, R. H.	Selkirk, Man.	" "	109 80	
Ross, A. D.	Dawson, Y.T.	" "	184 80	
White, H.	Cranbrook, B.C	July 1, 1905 to "	431 20	
Ray, George	York Factory, Man.	Sept. 1, 1906 to "	61 74	
McKenzie, W.	North Bay, Ont	July 1, 1905 "	431 20	
Daly, J. A.	Campbellford, Ont.	Guarantee from July 1, '06 to Mar. 31, '07	2 70	
Lownsborough, W.	Lindsay, Ont.	" "	2 70	
McPherson, M. J.	Kincardine, Ont.	" "	2 70	
Watson, G.	Collingwood, Ont	" "	2 70	
Brown, G	Meaford, Ont.	" "	2 70	
Allison J. B.	Napanee, Ont.	" "	2 70	
Britton, W. H.	Gananoque, Ont.	" "	2 70	
Fraser, R.	Trenton, Ont.	" "	2 70	
Ross, W. T.	Picton, Ont.	" "	2 70	
Valleau, A. S.	Deseronto, Ont.	" "	2 70	
McKenzie, G.	Moose Factory, Ont.	" "	2 70	
Anderson, J. J.	Sackville, N.B.	" "	2 70	
Kavanagh, A. J.	Gaspé, Que.	" "	2 70	
Boyd, A.	Antigonish, N.S.	" "	2 70	
Brodeur, S. A.	Valleyfield, Que.	" "	2 70	
Cauchon, H	Lake Megantic, Que.	" "	2 70	
Kirk J. T.	Sussex, N.B.	" "	2 70	
McDonald, J. F.	New Glasgow, N.S.	" "	2 70	
McPherson, J.	North Sydney, N.S.	" "	2 70	
Park, W. A.	New Castle, N.B.	" "	2 70	
Ratchford, C. E.	Amherst, N.B.	" "	2 70	
Street, A. F	Fredericton, N.B.	" "	2 70	
Watt, G.	Chatham, N.B.	" "	2 70	
Binney, G. W.	Moncton, N.B.	" "	2 70	
Ross, A. D.	Dawson, Y.T.	" "	2 70	
English, J. J.	Maple Creek, N.W.T.	" "	2 70	
Gilhuly, R. H.	Selkirk, Man.	" "	2 70	
Pond, J. J.	Morden, Man	" "	2 70	
Walton, E. J. R.	Medicine Hat, N.W.T	" "	2 70	

APPENDIX B.—No. 1.—Details of Excise Expenditures for nine months ended March 31, 1907—*Continued.*

To whom paid.	Place of Residence.	Service.	Amounts paid.	Total amount paid.
		Commission to Customs Officers.	$ c.	$ c.
Jackson, H. B.	Rainy River, Man	Guarantee from July 1, '06 to Mar. 31, '07	2 70	
Conway, T. D.	Lady Smith, B.C.	" " "	2 70	
Gilpin, R. R.	Grand Forks. B.C.	" " "	2 70	
Mather, T. J.	Gretna, Man.	" " "	2 70	
Ferguson, J. D.	Saskatoon, Man.	" " "	2 70	
Stanley, T. D.	St. Mary's, Ont.	" July 1, 1905 to "	6 30	
Tyson, A. M.	Wiarton, Ont.	" " "	6 30	
Clark, A. J.	Campobello, N.B.	" " "	6 30	
Nadeau, M.	Clair. N.B	" " "	6 30	
Veniot, T. J.	Bathurst, N.B.	" " "	6 30	
McKenzie, W.	North Bay, Ont.	" " "	6 30	
Campbell, G.	Moyie City, B.C.	" " "	6 30	
Douglass, H.	Banff, N.W.T.	" " "	6 30	
Gardner, W.	FortMcLeod, N.W.T.	" " "	6 30	
Marsh, R. J. F.	Fort Francis, Man.	" " "	6 30	
Stevenson. J. R.	Moose Jaw, N.W.T.	" " "	6 30	
White, H.	Cranbrook. B.C.	" " "	6 30	
Ray, G. R.	York Factory, B.C.	" Oct. 1 1906 to "	1 80	
Boucher, G.	"	" Nov. 1, 1906 to "	1 50	
Walker, F. A.	Fort Saskatchewan	" July 1 1905 to June 30, 1906	3 60	
Beauchesne, P. C.	Paspébiac, Que.	" Feb. 1, 1906 to March 31, 1907	4 20	
Delahay, W.	Phoenix, B.C.	" July 1, 1906, to Nov. 15, 1906	1 35	
Blais, A.	Chicoutimi, Que.	" Nov. 1, 1906 to March 31, 1907	1 50	
Bell, A.	Princeton, B.C.	" May 1, 1906 to "	3 30	
		Total Comission to Customs Officers		4,318 51
		Commission on Tobacco Stamps.		
Grignon, A.	St. Eustache, Que.	Allowance of 5 p.c. on sale of stamps		5 49
		Sundry Expenditure.		
Fréchette, A.		Technical translation		27 20

APPENDIX B.—No. 1.—Details of Excise Expenditures for nine months ended March 31, 1907—*Continued.*

To whom paid.	Service.	Amounts paid.	Total amounts paid.
	Provisional Allowance.	$ cts.	$ cts.
Gosnell, T. S. Winnipeg.	To pay E. J. Jeffereys for provisional allowance	77 44	
	" J. T. Lévêque	77 44	
	" P. Barrett	76 77	
	" T. H. Morris	77 44	
	" T. W. Hammond	77 44	
	" H. E. Ross	77 44	
	" J. W. Sparling	48 72	
	" J. D. McNiven	48 72	
	" D. A. Nichol	75 36	
	" R. W. Earl	48 72	
	" D. Kuss	26 00	
	" W. F. Chisholm	26 00	
	" D. R. Davies	26 00	
	" J. E. Knipfel	26 00	
Saucier, F. X Calgary.	" R. W. Fletcher	48 75	
	" N. Harbottle	67 50	
	" J. H. Walker	77 50	
	" J. H. Schofield	77 50	
	" J. G. Graham	63 07	
	" G. O. Baltz	26 00	
	" P. J. Costello	26 00	
	" R. R. Earle	26 00	
	" W. B. Gray	26 00	
	" J. McKenty	26 00	
Miller, J. E. Vancouver.	" A. H. Marion	77 53	
	" F. Deely	77 53	
	" W. A. Templeton	77 53	
	" E. R. Bailey	77 53	
	" F. A. Meyer	44 56	
	" C. H. Parson	48 72	
	" J. F. Power	48 72	
	" H. P. McCraney	48 72	
	" W. Wolfenden	48 72	
	" W. E. Hodder	77 53	
	" Jas. Thornburn	124 97	
	" R. S. Gray	75 28	
	" E. J. Morgan	63 45	
	" D. C. McGregor	26 00	
	" A. Bell	26 00	
	" W. Delahay	26 00	
	" F. M. Gillespie	26 00	
	" J. Williams	26 00	
Jones, R, Victoria.	" F. J. Hall	77 44	
	" J. A. McAloney	46 74	
	Total for provisional allowance		2,398 78

APPENDIX B.—No. 1.—Details of Excise Expenditures for nine months ended March 31, 1907.—*Continued.*

To whom paid.	Service.	Amounts paid.	Total amounts paid.
	Duty-pay.	$ cts.	$ cts.
McArthur, Geo.	From July 1, 1906, to March 31, 1907	112 50	
Brennan, John.	" "	75 00	
Brain, A. F.	" "	75 00	
Thomas, R.	" "	75 00	
Bayard, G. A	" "	75 00	
Cahill, J. W.	" "	75 00	
Falconer, J. E.	" "	75 00	
Adam, A. R.	" "	75 00	
Keogh, P. M.	" "	75 00	
Chilvers, F. W.	" "	75 00	
Gerald, Chas.	" "	150 00	
Jamieson, R. C	" "	150 00	
Hurst, L. B.	" "	75 00	
Doyle, B. J.	" "	75 00	
O'Leary, T. J.	" "	75 00	
Coulter, A.	" "	75 00	
Jones, A.	" "	75 00	
Graham, W. T.	" "	75 00	
Howard, W. W. S.	" "	75 00	
Dawson, W.	" "	150 00	
Howie, Alex.	" "	112 50	
Woodward, G. W	" "	75 00	
Egener, A.	" "	75 00	
Martin, N.	" "	75 00	
Baby, W. A. D.	" "	112 50	
O'Brien, J. F.	" "	112 50	
Bishop, J. B.	" "	75 00	
Hayhurst, T. H.	" "	75 00	
Standish, J. G.	" "	112 50	
Brown, W. J.	" "	112 50	
Wilson, H. R.	" "	75 00	
Gerald, W. H.	" "	150 00	
Macdonald, A. B.	" "	112 50	
Keeler, G. S.	" "	75 00	
McPherson, E. A	" "	75 00	
Mason, F.	" "	75 00	
Goodman, A. W.	" "	75 00	
Gow, John E.	" "	112 50	
Bernier, J. A	" "	112 50	
Olivier, H.	" "	75 00	
Ralston, T.	" "	75 00	
Daveluy, J. P	" "	75 00	
Walsh, D. J.	" "	150 00	
Snowden, J. W	" "	75 00	
Allen, G. A	" "	150 00	
Davidson, J.	" "	75 00	
Bouteillier, Geo.	" "	150 00	
Brennan, D. J.	" "	112 50	
Bernard, N. J. O.	" "	75 00	
Dumaine, J. O.	" "	75 00	
Taylor, G. W.	" "	112 50	
Murray, D.	" "	112 50	
Dick, J. W.	" "	150 00	
Young, R. E.	" "	150 00	
Desaulniers, J. E. A.	" "	150 00	
Millier, E	" "	112 50	
Coleman, J. J.	" "	112 50	
Mulrooney, Geo.	" "	56 25	
Traversy, F. X.	" "	75 00	
Corriveau, O.	" "	75 00	

APPENDIX B.—No. 1.—Details of Excise Expenditures for nine months ended March 31, 1907—*Concluded.*

To whom paid.	Service.	Amounts paid.	Total amounts paid.
	Duty-pay.	$ cts.	$ cts.
Scullion, W. J.	From July 1, 1906 to March 31, 1907	75 00	
Quinn, J. D.	" "	112 50	
McGuire, L. J.	" "	75 00	
Berry, H. L.	" "	112 50	
Johnston, J. J.	" "	75 00	
Marcon, F. E.	" to July 10, 1906	2 70	
Bergeron, R. J.	" October 16, 1906, to March 31, 1907	45 96	
Thomas, W. F.	" July 9, 1906, to March 31, 1907	72 82	
McFee, A. C.	" August 1, 1906, to December 31, 1906	41 67	
Blyth, A.	" December 1, 1906, to March 31, 1907	33 33	
Bissell, C. H.	" November 1, 1906, "	41 66	
Bouchard, Jos.	" September 4, 1906, "	57 22	
Brant, A.	" October 1, 1906, "	50 00	
Gray, R. S.	" July 18, 1906, "	70 38	
Fairley, W.	" October 14, 1906, "	46 30	
Gillies, A. L.	" August 26, 1906, to October 13, 1906	13 53	
Cameron, D. M.	" July 1, 1906, to February 15, 1907	125 60	
Weyms, Charles (est. of)	" July 1, 1906, to August 25, 1906	15 17	
McIntosh, W. A.	" January 7, 1907, to March 31, 1907	23 33	
Lally, J. E.	" " "	23 33	
Cook, W. J.	" " "	23 33	
Deely, F.	" March 5, 1907, "	7 40	
Amor, W.	" February 16, 1907, "	24 40	
Earl, Edgar	" July 1, 1907, to February 11, 1907.	61 42	
	Total duty-pay		6,985 80
	Grand total		386,922 88
	ADD—Printing	5,777 98	
	Stationery	1,458 31	
	Lithographing and engraving, &c.	939 70	8,175 99
			395,098 87
	ADD—Balances due to Collectors, July 1, 1906	603 79	
	" by " March 31, 1907	343 98	
			947 77
			396,046 64
	LESS—Balances due by Collectors, July 1, 1906	49 08	
	" to " March 31, 1907	343 98	
			393 06
	Actual disbursements agreeing with Statement No. 4, page 12		395,653 58

W. J. GERALD,
Deputy Minister.

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

APPENDIX B—*Continued.*

No. 2.—Distribution of Seizures for nine months ended March 31, 1907.

Divisions.	To whom paid.	Service.	Amounts paid.	Totals.
			$ cts.	
Cornwall	Mulhern, M. M.	To pay informer penalty in seizure, No. 49.		7 50
London	Floody, E.	For his share of seizure, No. 71	40 92	
	"	" 72	40 93	
				81 85
	Alexander, T.	To pay informer penalty in zeizure, No. 71.	50 00	
	"	" " 72.	50 00	
				100 00
Ottawa	Freeland, Ant.	" " " 216.	2 50	
		" " " 217.	2 50	
		" " " 218.	2 50	
		" " " 219.	2 50	
		" " " 220.	2 50	
		For his share of seizure, No. 215	17 10	
		" " 216	1 15	
		" " 217	1 15	
		" " 218	1 15	
		" " 219	1 15	
		" " 220	1 15	
				35 35
	Slattery, B	" " 215		17 10
	Floody, E	" " 215		17 10
	Hinchey, E. H	" " 216	1 15	
		" " 217	1 15	
		" " 218	1 15	
		" " 219	1 15	
		" " 220	1 15	
				5 75
St. Catharines	Hesson, C. A	" " 18		0 90
	Schram, R. H.	" " 18		0 90
Toronto	Frankland, H. R.	To pay informer penalty in seizure, No 418.	25 00	
	"	" " 420.	12 50	
				37 50
Joliette	Elliott, T. H.	For his share of seizure, No. 418		25 00
Montreal	Labelle, L. V.	To pay informer penalty in zeizure, No. 143.		12 50
	Toupin, J. A.	" " " 1123	5 00	
		" " " 1124	12 50	
		" " " 1125	5 00	
		" " " 1127	5 00	
		" " " 1128	2 50	
		" " " 1129	5 00	
		" " " 1133	12 50	
		" " " 1135	12 50	
		" " " 1136	2 50	
		" " " 1138	5 00	
		" " " 1139	5 00	
		" " " 1142	12 50	
		" " " 1143	150 00	
		" " " 1146	50 00	
				285 00
		For his share of seizure, No. 1103	1 20	
		" " 1124	4 33	
		" " 1125	1 57	
		" " 1126	25 73	
		" " 1130	5 30	
		" " 1131	12 37	
				50 50
	Brabant, J. B. G. N.	" " 1103	1 20	
		" " 1108	6 25	
		" " 1116	9 72	

APPENDIX B—*Continued.*

No. 2.—DISTRIBUTION of Seizures for nine months ended March 31, 1907.—*Continued.*

Divisions.	To whom paid.	Service.	Amounts paid.	Totals.
			$ cts.	$ cts.
Montreal—*Con.*	Brabant, J. B. G. N.	For his share of seizure, No. 1117	1 72	
		" " 1118	9 12	
		" " 1119	3 00	
		" " 1120	1 00	
		" " 1121	7 60	
		" " 1122	6 42	
		" " 1123	1 60	
		" " 1124	4 34	
		" " 1125	1 58	
		" " 1126	25 74	
		" " 1127	3 00	
		" " 1128	1 35	
		" " 1129	2 38	
		" " 1130	5 29	
		" " 1131	12 38	
		" " 1133	11 25	
		" " 1142	6 97	
				121 91
	Comte, L. A. A. J.	" " 1108	6 25	
		" " 1111	2 25	
		" " 1123	1 60	
		" " 1124	4 34	
		" " 1125	1 58	
		" " 1126	25 73	
		" " 1127	2 99	
		" " 1128	1 36	
		" " 1129	2 37	
		" " 1142	6 96	
				55 43
	Warren, G	" " 1123		1 61
	Crevier, J. H	" " 1139		3 62
	Normandin, G	" " 1139		3 62
Quebec	LaRue, G. E	To pay informer penalty in seizure, No. 419	5 00	
		" " 570	25 00	
		" " 573	25 00	
		" " 574	12 50	
		" " 575	50 00	
		" " 576	25 00	
		" " 578	25 00	
		" " 581	25 00	
				192 50
"	Bourget, O	" " 573		10 99
St. John	Belyea, T. H	To pay informer penalty in seizure " 135	25 00	
		" " " " 136	32 50	
				57 50
	Kelly, J. T	For his share of seizure " 135	20 00	
		" " 136	20 60	
"				40 60
Pictou	Fraser, P	To pay informer penalty in seizure " 114	50 00	
		For his share of seizure " 114	11 07	
				61 07
"	Chisholm, D	" " 114		11 08
Calgary	Saucier, X	To pay informer penalty in seizure " 1	30 00	
		For his share of seizure " 1	15 00	
				45 00
"	Barrett, J. K	" " " 1		15 00
"	Wiseman, P	To pay informer penalty in seizure " 2		50 00

APPENDIX B—*Continued.*

No. 2.—DISTRIBUTION of Seizures for nine months ended March 31, 1907.—*Concluded.*

Divisions.	To whom paid	Service.	Amounts paid.	Totals.
			$ cts.	$ cts.
Vancouver.....	Miller, J. E.....	To pay informer penalty in Genl No. 4997.	50 00	
		" " " " 34.	25 00	
				75 00
		For his share of seizure " 33.	....	7 50
		Distribution of seizures ...	....	1,429 38

RECAPITULATION.

Ontario.....	328 95
Quebec	737 68
New Brunswick.....	98 10
Nova Scotia.....	72 15
Manitoba	110 00
British Columbia.....	82 50
	1,429 38

W. J. GERALD,
Deputy Minister.

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

APPENDIX B—*Continued.*

No. 3.—Details of Sundry Minor Expenditures for nine months ended March 31, 1907.

To whom paid.	Service.	Deductions for Superannuation	Amount paid.	Total amounts paid.
	Minor Expenditures.		$ cts.	$ cts.
Fréchette, A.	Technical translation for examination			35 72
	Adulteration of Food.	$ cts		
Macfarlane, Thomas, Ottawa	Salary as Chief Analyst for 9 months	45 00	2,205 00	
McGill, A.	" 1st Assistant Analyst for 9 mos.	34 53	1,690 47	
Wright, S. E.	" Clerk in laboratory for 9 months		675 00	
Davidson, E.	" " " "		675 00	
Lemoine, A.	" " " "		675 00	
Valin, J. G. A.	" " " "		675 00	
Belisle, E.	" " " "		533 30	
Macfarlane, A. C.	" " Clerk in laboratory from March 6 to March 31, 1907		55 90	
Ladouceur, Ls	" " Messenger for 9 months		528 73	
Kidd, Thomas, Seaforth, Ont	" Food Inspector for 9 months		375 00	
Costigan, J. J., Montréal, Q.	" " "	5 25	257 25	
Ferguson, J. C., St. John, N.B.	" " "	3 00	147 00	
Waugh, R. J., Halifax, N.S.	" " "		262 50	
Conklin, W. M., Winnipeg, M.	" " "		150 00	
Fletcher, R. W., Calgary, M.	" " "		150 00	
Parkinson, E. B., Vancouver, B. C.	" " "		150 00	
Rouleau, J. C., St. Hyacinthe, Q.	" " "		150 00	
Moore, T., Charlotteto'n, N.S.	" " "		150 00	
Roy, C. E.	Quebec, Q. Food Inspector from July 1 to August 14, 1906		23 64	
Béland, F. X. W. E.	" Food Inspector from Sept. 26, 1906 to March 31, 1907		154 16	
Hogan, J., Kingston, Ont.	" Food Inspector for 9 months		75 00	
Sanderson, A. E., Ottawa, O.	" Food Inspector from July 1, to Oct. 27, 1906 and from Nov. 8, 1906, to March 31, 1907		143 44	
O'Sullivan, D., Victoria, B.C.	" Food Inspector for 9 months		75 00	
	Contingencies.	87 78		9,976 39
Macfarlane, T.	Travelling expenses		415 20	
"	To pay for special assistance		362 67	
"	" rent for laboratory		300 00	
"	" sundries for laboratory		1,189 29	
Kidd, Thomas	Travelling and purchases of samples		396 82	
Costigan, J. J.	" "		271 06	
Roy, C. E.	" "		133 04	
Béland, F. X. W. E.	" "		89 15	
Ferguson, J. C.	" "		177 24	
Waugh, R. J.	" "		113 70	
Conklin, W. M.	" "		452 82	
Parkinson, E. B.	" "		24 50	
Moore, T.	" "		70 64	
Fletcher, R. W.	" "		254 45	
Rouleau, J. C.	" "		288 82	
Hogan, J.	" "		64 80	
Sanderson, A. E.	" "		103 29	
McPhee, W.	" "		3 50	
				4,710 99

APPENDIX B—*Continued.*

No. 3 —DETAILS of Sundry Minor Expenditures, for nine months ended March 31, 1907—*Concluded.*

To whom paid.	Service.	Amounts paid.	Totals.
	ADULTERATION OF FOOD—*Concluded.*	$ cts.	$ cts.
	Contingencies—Concluded.		
Ellis, W. H	Allowance under Act for retaining fees	150 00	
	" " rent	75 00	
	" " material used in analyses.	75 00	
	Fees for analyses	336 00	636 00
Bowman, W	Allowance under Act for retaining fees	150 00	
	" " rent	75 00	
	" " material used in analyses.	75 00	
	Fees for analyses	120 00	420 00
Valade, F. X	Allowance under Act for retaining fees	150 00	
	" " rent	75 00	
	" " material used in analyses.	75 00	
	Fees for analyses	128 00	428 00
Donald, J. T	Allowance under Act for retaining fees	150 00	
	" " rent	75 00	
	" " material used in analyses.	75 00	
	Fees for analyses	368 85	668 85
Fagan, J. C	Allowance under Act for retaining fees	150 00	
	" " rent	75 00	
	" " material used in analyses.	75 00	
	Fees for analyses	64 00	364 00
Duberger, E. A	Salary in connection with services for adulteration of drugs, 197 days at $10, $1,970 less $600 previously paid and $100 advanced	1,270 00	
Lyman Sons & Co	Apparatus for laboratory	40 60	
Eimer & Amend	Chemical apparatus, alcohol, etc.	139 86	
The Chemist and Surgeons Sup. Co	Chemicals, stoppers etc.	26 17	
Gooderham & Worts	58·30 gallons, alcohol for laboratory at $1.26 and $6.01 for freight	79 40	
Edwards, W. C. Co., Ltd	Chemicals	38 75	
Wilson, C. A	Law costs, Rex *vs.* E. Labrecque	20 00	
McKeown W. R	" " C. A. Boright	25 00	
Robitaille, A	" " T. St. Pierre	39 40	
Desloge A	" " Ed. Bousquet	36 55	
"	" " A. Blanchet	10 00	
Kellock, J. F	Expenses in connection with Proprietary medicine 4 days	25 00	
Forward, A. J	Apparatus for Laboratory	34 73	
Ellis & Brown	Law Costs Rex, *vs.* Sanborn	22 45	
Collector of Customs	Duty paid on goods imported	32 29	
Bauset & Lamb Optical Co	1 set mounted objects	5 18	
McGill, A	Travelling expenses	78 90	
	Total adulteration of food expenditures		1,924 28
	Add—Printing	2,324 01	
	Stationery	237 03	2,561 04
	Grand total, agreeing with statement No. 8, page 17		21,725 27

W. J. GERALD,
Deputy Minister.

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

SESSIONAL PAPER No. 12

APPENDIX B—*Continued.*

No. 4.—DETAILS of Departmental Expenditures, for nine months ended March 31, 1907.

Names.	Rank.	Period.	Deductions for			Amounts paid.	Totals.
			Superannuation.	Retirement.	Insurance.		
			$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Templeman, Hon. W.	Minister	From July 1, '06, to Mar. 31, '07				5,250 00	
Gerald, W. J.	Deputy Minister	"				3,000 00	
Himsworth, W.	Chief Clerk, Secretary	"				2,025 00	
Campeau, F. R. E.	Chief Clerk, Chief Accountant	"	22 50			2,002 50	
Valin, J. E.	Chief Clerk, Assistant Accountant	"	29 00			1,421 00	
Shaw, Jas. F.	Chief Clerk, Chief Statistical Clerk	"	19 26			1,430 74	
Doyon, J. A.	Chief Clerk, Weights and Measures	"	29 00			1,421 00	
Carter, Wm.	Assistant Secretary	"	28 50			1,396 50	
Westman, T.	Accountant's Branch Clerk.	"	26 25			1,286 25	
Quain, R.	" "	"	37 13		46 44	1,153 93	
Fowler, G.	Secretary's Branch Clerk.	"				1,237 50	
Newby, F.	" "	"	22 50			1,102 50	
Dunne, J. P.	Accountant's Branch Clerk.	From July 1, '06, to Oct. 31, '06	10 00			490 00	
Burns, John	" "	From July 1, '06, to Mar. 31, '07	22 50			1,102 50	
Hudon, L. E.	Secretary's Branch Clerk.	"	36 75			1,013 25	
Hughes, P. A.	Accountant's "	"	34 44			997 06	
McCullough, A.	Secretary's "	"	20 25			992 25	
Halliday, W. A.	Accountant's "	"	35 44			977 06	
Roy, L. G.	" "	"	34 13			940 87	
Desaulniers, E. A.	" "	"		46 88		890 62	
Ostiguy, L. R.	" "	"		45 63		866 87	
Nicholas, B. C.	Senior Second Class Clerk.	"		45 00		855 00	
Brodeur, P. E. S.	Accountant's Branch Clerk.	"		37 50		712 50	
Lawless, E. M.	Secretary's "	"		35 63		676 87	
Hagarty, B.	" "	"		35 63		676 87	
Charbonneau, E.	" "	"		35 63		676 87	
Chateauvert, G. E.	Accountant's "	"		31 88		605 62	
Gervais, J. H.	" "	"		31 88		605 62	
Doyle, E. F.	Secretary's "	"		31 88		605 62	
Watson, V. M.	" "	"		31 88		605 62	
Goodhue, M. L. E. B.	Accountant's "	"		31 88		605 62	
Trumpour, G.	Junior Second Class Clerk.	"		31 88		665 62	
Beard, M. H.	Third Class Clerk.	"		18 75		356 25	
Furlong, C. J.	" "	"		18 75		356 25	
Griffith, M.	" "	From Jan. 14, '07, to Mar. 31, '07		5 37		102 14	
Nicholas, B. C.	Private Secretary	From July 1, '06, to Mar. 31, '07				300 00	
Beard, M. H.	Assistant Private Secretary.	"				150 00	
Potvin, N.	Messenger.	"	18 38			506 62	
Yetts, R. P.	"	"	17 33		40 86	436 81	
			444 36	516 05	87 30		40,417 30

APPENDIX B—*Continued.*

No. 4.—DETAILS of Departmental Expenditures for nine months ended March 31, 1907—*Continued.*

Names.	Service.	Amounts paid.	Totals.
	Contingencies.	$ cts.	$ cts.
Robert, A., Ottawa	Salary as extra messenger for year	500 00	
Bourgeois, E. "	" "	462 48	
Campeau, A. "	" extra clerk, from July 23 to Oct. 28, 1906	146 47	
Griffith, Miss M. "	Salary as extra clerk from January 8 to 13, 1907	8 22	
Templeman, Hon. W., Ottawa	Travelling expenses	200 00	
Gerald, W. J. "	"	30 95	
Nicholas, B. C. "	"	107 20	
King's Printer "	Printing	1,091 01	
" "	Parliamentary publications	7 20	
Controller of Stationery "	Stationery	1,239 67	
C P. Ry. Telegraph Co. "	Telegrams	405 23	
G. N. W. " "	"	309 88	
The Bell Telephone Co. "	Telephone messages	12 00	
Postmaster "	Postage	44 61	
Chas. Higgerty "	Customs entry fees	11 50	
Sproule, W. H, "	To repairs, clocks, &c	9 25	
Storr, A. M. "	Cartage	127 70	
Bryson, Graham & Co. "	Matches, soap, towels &c	26 74	
Maviety, Mrs. S. "	Washing, &c	45 00	
Ottawa Electric Ry. Co. "	Tickets	10 00	
Dominion Express Co. "	Express charges	9 15	
Canadian " "	"	2 05	
Graves Bros. "	Ice tongs, water pitcher, &c	24 00	
Duford, J. B. "	Brushes	1 46	
C.P.Ry.Telegraph Messengers, Ottawa	Christmas donation	4 25	
G.T.Ry. " " "	"	3 75	
Mahoney, J., Ottawa	Cartage	1 75	
Butterworth & Co., Ottawa	Hardware	1 35	
Robillard & Sons, Dr. A., Ottawa	Soap	4 00	
Himsworth, W., Ottawa	Petty expenses	1 50	
Le Canadien, Chatham	Subscription	0 75	
The Daily News, New Westminster	"	2 50	
Jones, Yarrell & Co., London, Eng.	"	44 38	
Times Printing Co., Hamilton	"	3 00	
The Semi-Weekly O'Kanagan	"	1 50	
L'Evangeline, St. John, N.B.	"	3 00	
The Tribune Publishing Co.	"	4 00	
Le Progres du Saguenay	"	1 00	
Sherbrooke Record, Sherbrooke	"	3 30	
Tobacco World Publishing Co	"	1 17	
Le Progres du Golfe, Rimouski	"	0 83	
Le Courrier de L'Ouest	"	1 00	
Munn & Co., New York	"	7 00	
Manitoba Free Press Co., Winnipeg	"	4 00	
Bulletin des Recherches Historiques, Levis	"	2 00	
Intelligencer, Belleville	"	3 00	
Catholic Register, Toronto	"	1 00	
The Mail & Empire "	"	4 00	
Herald Publishing Co., Montreal	"	6 00	
Inland Sentinel, Kamloops	"	2 00	
The Daily Herald, Nanaimo	"	5 50	
Rossland Miner, Rossland	"	7 80	
Review Publishing Co., Montreal	"	10 00	
La Cie d'Imprimerie d'Arthabaska	"	1 00	
Le Lac St. Jean, Roberval	"	2 67	
Le Soleil, Quebec	"	12 00	
The Citizen, Ottawa	"	18 00	

APPENDIX B—*Continued.*

No. 4—Details of Departmental Expenditures for nine months ended March 31, 1907—*Concluded.*

Names.	Service.	Amounts paid.	Totals.
	Contingencies—Con.	$ cts.	$ cts.
North Bay Times	Subscription	2 00	
United Canada, Ottawa	"	1 50	
Ottawa Free Press, Ottawa	"	17 20	
La Presse, Montreal	"	6 00	
Canada Francais, St. Jean	"	1 00	
La Patrie, Montreal	"	6 00	
Le Cultivateur, Montreal	"	1 00	
La Temps, Ottawa	"	3 00	
The News, Toronto	"	3 00	
Spokane Newspaper Agency	"	10 00	
Post Intelligencer Co.	"	7 50	
The New Freeman, St. John	"	1 00	
The Colonist, Victoria	"	5 00	
La Cie de Publication du Canada	"	6 00	
S. B. Foote, Ottawa	"	2 00	
Witness Printing House, Montreal	"	6 00	
L'Echo de Québec	"	1 50	
Chatham Daily News	"	3 00	
Montreal Star, Montreal	"	3 00	
Blackadar Bros., Halifax	"	5 00	
Le Bulletin, Montreal	"	1 00	
Journal Printing Co., Ottawa	"	6 60	
Globe Printing Co., Toronto	"	8 00	
La Tribune, St. Hyacinthe	"	1 00	
Gazette Printing Co., Montreal	"	12 00	
The Resources, Montreal	"	1 00	
Saturday Night, Toronto	"	4 00	
Canada Newspaper Co., Toronto	"	7 00	
The Sentinel Review, Woodstock	"	3 00	
The Toronto World, Toronto	"	4 80	
Chronicle Publishing Co., Halifax	"	5 00	
Toronto Daily Star, Toronto	"	2 75	
L'Imprimerie, Yamaska	"	1 50	
The Trade Review, Montreal	"	3 75	
The Tribune Publishing Co., Winnipeg	"	2 00	
Telegram Printing Co., Ltd.	"	4 33	
	Total departmental contingencies		5,159 20
	Authorized disbursements (less superannuation, retirement and insurance)		45,576 50
	Add—Balance due March 31, 1907		16 66
			45,593 16
	Less—Balance due July 1, 1906		16 66
	Actual disbursements, agreeing with statement No. 17, page 42		45,576 50

W. J. GERALD,
Deputy Minister.

Inland Revenue Department,
Ottawa, May 31, 1907.

APPENDIX B—*Continued.*

No. 5.—DETAILS of Weights and Measures Expenditures for nine months ended March 31, 1907.

To whom paid.	Districts.	Deductions for			Amounts paid.	Total amounts paid.
		Retirement.	Superannuation.	Guarantee.		
	Belleville.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Johnson, W.	Salary as Inspector for nine months		18 00	2 70	879 30	
Slattery, T.	" Assistant Inspector for nine months		11 25	1 35	549 90	
Gallagher, T.	" Assistant Inspector for nine months			1 35	448 65	
Johnston, C. W.	" Assistant Inspector for nine months			1 35	448 65	
Errett, R. W.	" Assistant Inspector from July 1 to December 31, 1906			0 90	174 66	
	Salaries		29 25	7 65	2,500 56	
	Contingencies				1,955 30	
						4,455 86
	Hamilton.					
Freed, A. T	Salary as Inspector for nine months			2 70	1,197 27	
Marentette, A.	" Assistant Inspector for nine months		12 03	1 35	586 62	
Fitzgerald, E. W.	" Assistant Inspector for nine months			1 35	598 59	
Wheatley, A. E.	" Assistant Inspector for nine months			1 35	598 59	
Laidman, R. H.	" Assistant Inspector for nine months			1 35	561 15	
Robins, S. W.	" Assistant Inspector for nine months			1 35	486 09	
Clegg, J	" Assistant Inspector from January 14 to March 31, 1907			0 30	111 37	
	Salaries		12 03	9 75	4,139 68	
	Contingencies				1,472 71	
						5,612 39
	Ottawa.					
Macdonald, J. A.	Salary as Inspector for nine months			2 70	1,084 77	
Breen, J	" Assistant Inspector for nine months			1 35	561 15	
MacFarlane, J.	" Assistant Inspector for nine months		11 25	1 35	549 90	
Winsor, J.	" Assistant Inspector for nine months			1 35	523 62	
Findley, R.	" Assistant Inspector for nine months			1 35	496 84	
Scott, J	" Assistant Inspector from July 1, 1906 to February 1, 1907			1 05	290 57	
	Salaries		11 25	9 15	3,506 85	
	Contingencies				873 17	
						4,380 02
	Toronto.					
Kelly, D.	Salary as Inspector for nine months			2 70	1,009 80	
Milligan, R. J	" Assistant Inspector for nine months		11 97	1 35	598 59	
Wright, R. J.	" Assistant Inspector for nine months			1 35	586 62	
Smith, J. C.	" Assistant Inspector for nine months			1 35	561 15	

APPENDIX B—*Continued.*

No. 5.—DETAILS of Weights and Measures Expenditures for nine months ended March 31, 1907—*Continued.*

To whom paid.	Districts.	Deductions for			Amounts paid.	Total amounts paid.
		Retirement.	Superannuation.	Guarantee		
	Toronto—Con.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Murdoch, J.	Salary as Assistant Inspector for nine months			1 35	561 15	
	Salaries		11 97	8 10	3,317 31	
	Contingencies				1,372 76	
						4,690 07
	Windsor.					
Hayward, W. J.	Salary as Inspector for nine months		23 97	2 70	1,173 33	
Coughlin, D.	" Assistant Inspector for nine months			1 35	598 59	
Thomas, J. S.	" Assistant Inspector for nine months			1 35	598 59	
Hughes, R. A.	" Assistant Inspector for nine months			1 35	598 59	
Liddle, D.	" Assistant Inspector for nine months			1 35	373 59	
	Salaries		23 97	8 10	3,342 69	
	Contingencies				1,345 42	
						4,688 11
	Montreal.					
Chalus, J. O.	Salary as Inspector for nine months		23 97	2 70	1,173 33	
Daoust, J. A.	" Assistant Inspector for nine months		12 03	1 35	586 62	
Hébert, J. A. P.	" Assistant Inspector for nine months			1 35	598 59	
Boudet, E.	" Assistant Inspector for nine months			1 35	598 59	
Collins, D.	" Assistant Inspector for nine months			1 35	598 59	
Beaulac, J. H.	" Assistant Inspector for nine months			1 35	523 62	
Hall, H. C.	" Assistant Inspector for nine months			1 35	448 65	
	Salaries		36 00	10 80	4,527 99	
	Contingencies				2,277 99	
						6,805 98
	Quebec.					
Roy, C. E.	Salary as Inspector for nine months			2 70	1,017 64	
LeBel, J. A. W.	" Assistant Inspector for nine months		28 92	1 25	794 70	
Kelly, M. J.	" Asssitant Inspector from July 1 to January 1, 1907		11 94	0 90	387 12	
Guay, A.	" Assistant Inspector for nine months			1 35	561 15	
Préfontaine, F. H.	" Assistant Inspector for nine months			1 35	523 62	
Knowles, C.	" Assistant Inspector for nine months			1 35	561 15	
Petit, J. B.	" Assistant Inspector for nine months			1 35	448 65	
Bourget, L. J.	" Assistant Inspector for nine months			1 35	523 62	

APPENDIX B—*Continued.*

No. 5.—DETAILS of Weights and Measures Expenditures, for nine months ended March 31, 1907—*Continued.*

To whom paid.	Districts.	Deductions for Retirement.	Deductions for Superannuation.	Deductions for Guarantee	Amounts paid.	Total amounts paid.
	Quebec—Con.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Parent, J.	Salary as Assistant Inspector for nine months			1 35	454 73	
	Salaries		40 86	13 05	5,272 38	
	Contingencies				1,575 85	6,848 23
	St. Hyacinthe.					
Morin, J. P.	Salary as Inspector for nine months			2 70	672 30	
Tomlinson, W. W.	" Assistant Inspector for nine months			1 35	561 15	
Dessert, V.	" Assistant Inspector for nine months			1 35	523 62	
Therien, J. F.	" Assistant Inspector for nine months			1 35	461 93	
	Salaries			6 75	2,219 00	
	Contingencies				841 46	3,060 46
	Three Rivers.					
Gravel, A. I.	Salary as Inspector for nine months			2 70	747 27	
Bolduc, E.	" Asst. " "			1 35	448 65	
	Salaries			4 05	1,195 92	
	Contingencies				105 40	1,301 32
	St. John.					
Barry, J.	Salary as Inspector for nine months			2 70	897 30	
Cowan, E.	" Asst. " from July 1 to November 1, 1906		5 00	0 60	244 46	
Bernier, J. A.	" Asst. Inspector for nine months			1 35	448 65	
Leblanc, F. X.	" " " "			1 35	448 65	
White, H. E.	" " " from Jan. 14 to March 31, 1907			0 30	107 20	
	Salaries		5 00	6 30	2,146 20	
	Contingencies				911 76	3,057 96
	Cape Breton.					
Laurence, G. C.	Salary as Inspector for nine months			2 70	634 80	
	Contingencies				302 07	936 87
	Halifax.					
Frame, A.	Salary as Inspector for nine months			2 70	784 80	
Waugh, R. J.	" Asst. " "			1 35	486 09	
	Salaries			4 05	1,270 89	
	Contingencies				1,338 37	2,609 26
	Pictou.					
Dustan, W. M.	Salary as Inspector for nine months		14 97	2 70	732 33	
Chisholm, J. J.	" Asst. " "			1 35	523 62	
	Salaries		14 97	4 05	1,255 95	
	Contingencies				187 86	1,443 81

APPENDIX B—*Continued.*

No. 5.—DETAILS of Weights and Measures Expenditures, for nine months ended March 31, 1907—*Continued.*

To whom paid.	Districts.	Deductions for Retirement.	Deductions for Superannuation.	Deductions for Guarantee	Amounts paid.	Total amounts paid.
	Charlottetown.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Davy, E.	Salary as Inspector for nine months			2 70	747 27	
Hughes, H.	" Asst. " "			1 35	486 99	
	Salaries			4 05	1,233 36	
	Contingencies				211 34	
						1,444 70
	Winnipeg.					
Magness, R.	Salary as Inspector for nine months			2 70	1,047 24	
McDonald, A. W.	" Asst. " "			1 35	561 15	
Mager, J. G.	" " " "			1 35	73 62	
McKay, R.	" " " "			1 35	561 15	
Girdlestone, R. J. M.	" " " "		3 03	1 35	145 62	
Gilby, W. F.	" " " "			1 35	411 12	
	Salaries		3 03	9 45	2,799 90	
	Contingencies				1,802 50	
						4,602 40
	Calgary.					
Saucier, X.	Salary as Inspector from July 1 to December 7, 1906			1 55	84 97	
Costello, J. W.	" Inspector from December 7, 1906, to March 31, 1907		13 23	1 91	648 25	
	Salaries		13 23	3 46	733 22	
	Contingencies				279 00	
						1,012 22
	Vancouver.					
Marshall, R.	Salary as Inspector for nine months			2 70	672 30	
Findley, H.	" Asst. " "			1 35	673 65	
McAloney, J. A.	" " " "			1 35	261 09	
	Salaries			5 40	1,607 04	
	Contingencies				579 03	
						2,177 07
	Nelson.					
Parker, Thos.	Salary as Inspector for nine months			2 70	672 30	
	Contingencies				734 50	
						1,406 80
	Yukon.					
MacDonald, J. F.	Salary as Inspector for nine months			2 70	747 27	
	Contingencies				229 10	
						976 37
	Chief Inspector.					
Fyfe, Jas.	Salary as Chief Inspector for nine months				1,950 00	
	Contingencies				354 38	
						2,304 38

APPENDIX B—*Continued.*

No 5.—DETAILS of Weights and Measures Expenditures for nine months ended March 31, 1907—*Continued.*

To whom paid.	Service.	Amounts paid.	Total amounts paid.
	General Contingencies.	$ cts.	$ cts.
Burgess, T	Salary as mechanical assistant for nine months	675 00	
The Pritchard & Andrews Co	Numerals stamps, seals and general repairs	127 78	
Graves Bros	General hardware supply	25 04	
Sherren, J. C	Law costs *re* Rex vs. G. H. Brown and J. Biglow	47 00	
Oertling, L	Weights, freight and packing	521 34	
Carson, Hugh	24 straps $6, and 25 cases $120	126 00	
Collector of Customs	Duty paid on imported goods	81 95	
Wilson, C. A	Law costs, Rex *vs.* Ls. Racette and A. Beauchamp	40 00	
Chisholm, Jas	Law costs, Rex *vs.* H. S. Bush	20 00	
Dominion Plating Co., The	Nickeling 24 scale strips and nuts	10 80	
Chadwick Bros	24 copper tanks, and freight and packing	335 01	
American Bank Note Co.	For printing stamps	75 00	
Thornton & Truman	Brass wire and general repairs, locks and keys, &c	5 95	
The Canadian Rubber Co	1 rubber bag	15 00	
Robert Mitchell Co., Ltd The	24 pieces channel brass and 48 brass nuts	10 75	
Woods Ltd	1 bag	1 50	
Larmouth, E. A. (for estate of Harris, Campbell & Boyden)	For painting and repairing 2 large cases	25 00	
Hope, J. & Son	6 yards of blue print and 1 roll of linen	7 25	
Dominion Express Co., The	Express charges	8 15	
Canadian Express Co., The	"	19 30	
American Express, The	"	4 02	
Grand Trunk Ry. System	Freight	1 96	
Canadian Pacific Ry	"	9 83	
Mahoney, J	Cartage	7 25	
	Total general contingencies		2,200 88
	Provisional Allowance.		
Magness, R., Winnipeg	To pay A. W. McDonald for provisional allowance	112 50	
" "	" R. McKay " "	112 47	
" "	" J. G. Mager " "	112 47	
Saucier, F. X., Calgary	" J. W. Costello " "	112 47	
	Total for provisional allowance		449 91
	Metric System.		
Edwards, W. C. & Co., Ltd	Lumber and cartage	19 40	
The Canadian Express Co	Express charges	55 05	
The Dominion Express Co.	"	87 17	
The Canadian Pacific Ry. Co.	Freight	4 55	
	Total for metric system		166 17
	Grand total		66,631 24

APPENDIX B—*Continued.*

No. 5.—DETAILS of Weights and Measures Expenditures for the nine months ended March 31, 1907—*Concluded.*

To whom paid.	Service.	Amounts paid.	Total amounts paid.
	Metric System.	$ cts.	$ cts.
	ADD—Printing	1,928 58	
	Stationery	354 36	
	Lithographing	228 15	
			2,511 09
	Actual disbursements, (less superannuation, insurance, retirement and guarantee)		69,142 33
	ADD—Old balances due by Inspectors March 31, 1907		193 26
			69,335 59
	LESS—Old balances due by Inspectors July 1, 1906		193 26
	Actual disbursements, agreeing with statements (A) and (B) pages 48, 49		69,142 33

W. J. GERALD,
Deputy Minister.

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

APPENDIX B—*Continued.*

No. 6.—DETAILS of Gas Inspection Expenditures, for nine months ended March 31, 1907.

To whom paid.	Districts.	Deductions for Retirement.	Deductions for Superannuation.	Deductions for Guarantee.	Amounts paid	Total amounts paid.
	Barrie.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Shanacy, M.	Salary as Inspector for nine months		1 50	2 70	70 80	
	Contingencies				0 85	
						71 65
	Belleville.					
Johnson, W.	Salary as Inspector for nine months		5 28	2 70	254 52	
Stuart, W. E.	" Asst. " "			2 16	72 81	
	Salaries		5 28	4 86	327 33	
	Contingencies				160 10	
						487 43
	Berlin.					
Broadfoot, S.	Salary as Inspector for nine months			2 70	72 30	
	Contingencies				35 38	
						107 68
	Brockville.					
Johnston, C. W.	Contingencies					10 25
	Cobourg.					
Bickle, J. W.	Salary as Inspector for nine months		1 50	2 70	70 80	
	Contingencies				36 40	
						107 20
	Cornwall.					
Mulhern, M. M.	Salary as Inspector for nine months		1 50	2 70	70 80	
	Contingencies				22 50	
						93 30
	Guelph.					
Broadfoot, S.	Salary as Inspector for nine months		3 00	2 70	144 30	
	Contingencies				28 79	
						173 09
	Hamilton.					
McPhie, D.	Salary as Inspector for nine months		27 00	2 70	1,320 30	
McPhie, W. H.	" Asst. " "			1 35	496 84	
Murphy, F. C.	" " " "			1 35	448 65	
Dennis, W. A.	" " " "			1 35	111 15	
	Salaries		27 00	6 75	2,376 94	
	Contingencies				400 75	
						2,777 69
	Kingston.					
Gallagher, T.	Salary as Inspector for nine months			2 70	297 30	
	Contingencies				66 35	
						363 65
	Listowel.					
Male, T.	Salary as Inspector for nine months			2 70	72 30	
	Contingencies				70 40	
						142 70

APPENDIX B—*Continued.*

No. 6.—DETAILS of Gas of Expenditures, for nine months ended March 31, 1907—*Con.*

To whom paid.	Districts.	Deductions for			Amounts paid.	Total amounts paid.
		Retirement.	Superannuation.	Guarantee		
	London.					
Nash, A. F.	Salary as Inspector for nine months			2 70	934 74	
Folley, L. R.	" Asst. " from July 1, 1906 to February 1, 1907.			1 05	348 95	
	Salaries			3 75	1,283 69	
	Contingencies				228 35	
						1,512 04
	Napanee.					
McPhie, D.	Contingencies					72 58
	Ottawa.					
Roche, H. G	Salary as Inspector for nine months			2 70	859 77	
Bond, M.B.	" Asst. " "			2 16	447 84	
	Salaries			4 86	1,307 61	
	Contingencies				769 26	
						2,076 87
	Owen Sound.					
Graham, W. J	Salary as Inspector for nine months			2 70	147 30	
	Contingencies				103 75	
						241 05
	Peterborough.					
Rork, T.	Salary as Inspector for nine months			2 70	109 80	
	Contingencies				21 57	
						131 37
	Sarnia.					
Thrasher, W. A.	Contingencies					2 25
	Stratford.					
Rennie, G.	Salary as Inspector for nine months		3 00	2 70	144 30	
	Contingencies				10 50	
						154 80
	Toronto.					
Johnston, J. K.	Salary as Inspector for nine months		25 53	2 70	1,246 77	
Pape, J	" Asst. " "			1 35	748 62	
Whyte, J. A	" " " "			1 35	598 59	
Hunter, W. M.	" " " "			1 35	523 62	
	Salaries		25 53	6 75	3,117 60	
	Contingencies				87 49	
						3,205 09
	Woodstock.					
Orr, H. M.	Salary as Inspector from January 14 to March 31, 1907.			0 38		21 11
	Montreal.					
Aubin, A	Salary as Inspector for nine months			2 70	1,197 27	
O'Flaherty, M. J.	" Asst. " "			1 35	673 65	
Aubin, Chas	" " " "			2 16	597 78	
	Salaries			6 21	2,468 70	
	Contingencies				336 00	
						2,804 70

APPENDIX B—*Continued.*

No. 6.—DETAILS of Gas Inspection Expenditures, for nine months ended, March 31, 1907—*Continued.*

To whom paid.	Districts.	Deductions for Retirement.	Deductions for Superannuation.	Deductions for Guarantee	Amounts paid.	Total amounts paid.
	Quebec.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
LeVasseur, N.	Salary as Inspector for nine months		15 78	2 70	773 14	
Moreau, J. A.	" Asst. " "		8 00		392 00	
Beland, F. X. W. E.	" " " from September 26, 1906 to March 31, 1907			1 80	152 36	
	Salaries		23 78	4 50	1,317 50	
	Contingencies				130 73	
						1,448 23
	Sherbrooke.					
Simpson, A. F.	Salary as Inspector for nine months		2 25	2 70	107 55	
Bowen, F. C.	" Asst. " "			1 35	73 62	
	Salaries		2 25	4 05		181 17
	St. Hyacinthe.					
Benoit, L. V.	Salary as Inspector for nine months			1 35		73 65
	Fredericton.					
Wilson, J. E.	Salary as Inspector from July 23, 1906 to March 31, 1907			1 20	67 85	
	Contingencies				51 00	
						118 85
	St. John.					
Wilson, J. E.	Salary as Inspector for nine months			2 70	822 30	
	Contingencies				69 56	
						891 86
	Halifax.					
Ritchie, A. J.	Salary as Inspector for nine months			2 70	747 27	
Munro, H. D.	" Asst. " "		1 47	1 35	72 18	
Cotter, W. F.	" " " "			1 35	373 59	
	Salaries		1 47	5 40	1,193 04	
	Contingencies				488 43	
						1,681 47
	Charlottetown.					
Bell, J. H.	Salary as Inspector for nine months			2 70		334 80
	Winnipeg.					
Magness, R.	Salary as Inspector for nine months			2 70	222 30	
Mager, J. G.	" Asst. " "			2 16	544 30	
	Salaries			4 86	766 60	
	Contingencies				68 75	
						835 35
	Nanaimo.					
McAloney, J. A.	Salary as Inspector for nine months			2 70		72 30
	New Westminster.					
Wolfenden, W.	Salary as Inspector for nine months	3 75		2 70		68 55

APPENDIX B—*Continued.*

No. 6.—DETAILS of Gas Inspection Expenditures, for nine months ended March 31, 1907—*Continued.*

To whom paid.	Districts.	Deductions for			Amounts paid.	Total amounts paid.
		Retirement.	Superannuation.	Guarantee.		
	Vancouver.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Miller, J. E.	Salary as Inspector for nine months		4 50	2 70	217 80	
	Contingencies				33 55	
						351 35
	Victoria.					
Jones, R.	Salary as Inspector for nine months		3 00	2 70	144 30	
	Contingencies				12 50	
						156 80
	Chief Inspector.					
Higman, O.	Salary as Chief Inspector for nine months					75 00

APPENDIX B—*Continued.*

No. 6.—DETAILS of Gas Inspection Expenditures for nine months ended March 31, 1907—*Concluded.*

To whom paid.	Service.	Amounts paid.	Total Amounts. paid.
	General Contingencies.	$ cts.	$ cts.
American Bank Note Co	For printing stamps	75 00	
Stevenson, Geo.	To pay for 2 meter powers	828 00	
McDonald & Henry.	Material furnished and repairs to Stratford Gas Office	53 01	
McGill, A	Travelling expenses	108 05	
Canadian Rubber Co., The	Rubber tubing	23 25	
Sugg, W. & Co.	36 discs	9 00	
Collector of Customs	Duty paid on imported goods	2 21	
Fréchette, L. A.	Technical translation	2 51	
Dominion Express Co.	Express charges	7 30	
	Total general gas contingencies		1,108 33
	Grand total		21,954 21
	ADD—Printing	235 00	
	Stationery	297 75	
	Lithographing	150 00	
			682 75
	Authorized disbursement (less superannuation, retirement and guarantee)		22,636 96
	ADD—Balances due by Inspectors March 31, 1907		212 88
			22,849 84
	LESS—Balances due by Inspectors July 1, 1906.		212 88
	Actual disbursements, agreeing with statement No. 22, page 52		22,636 96

W. J. GERALD,
Deputy Minister.

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

APPENDIX B—*Continued.*

No. 7.—DETAILS of Electric Light Inspection for nine months ended March 31, 1907.

To whom paid.	Districts.	Deductions for Guarantee.	Amounts paid.	Total amounts paid.
	Belleville.	$ cts.	$ cts.	$ cts.
Johnston, C. W.	Salary as Inspector for nine months	1 35	89 49	
	Contingencies		325 52	
				415 01
	Hamilton.			
McPhie, D.	Contingencies			47 65
	London.			
Nash, A. F.	Contingencies			327 35
	Ottawa.			
Roche, H. G.	Contingencies			154 95
	Owen Sound.			
Graham, W. J.	Contingencies			2 00
	Toronto.			
Johnstone, J. K.	Contingencies			373 62
	Montreal.			
Aubin, A	Contingencies			72 50
	Quebec.			
Le Vasseur, N.	Contingencies			96 33
	Sherbrooke.			
Simpson, A. F.	Contingencies			49 80
	St. Hyacinthe.			
Provost, J. E.	Salary as Inspector for nine months	1 35	223 65	
	Contingencies		91 35	
				315 00
	Three Rivers.			
Dufresne, J. U.	Salary as Inspector for nine months		375 00	
	Contingencies		39 00	
				414 00
	St. John.			
Wilson, J. E.	Contingencies			176 69
	Halifax.			
Ritchie, A. J.	Contingencies			100 10
	Charlottetown.			
Bell, J. H.	Contingencies			44 84

APPENDIX B—*Continued.*

No. 7.—DETAILS of Electric Light Inspection for nine months ended March 31, 1907—*Continued.*

To whom paid.	Districts.	Deductions for Guarantee.	Amounts paid.	Total Amounts paid.
	Calgary.	$ cts.	$ cts.	$ cts.
Harbottle, N.	Salary as Inspector from July 1, '06 to February, '07.	1 05	57 26	
Higman, O., jr.	" " from Feb. 21 to March 31, 1907.	0 15	42 70	
		1 20	99 96	
	Contingencies		5 95	
				105 91
	Winnipeg.			
Magness, R.	Contingencies			55 10
	Victoria.			
Jones, R.	Contingencies			35 65
	Yukon.			
Macdonald, J. F.	Salary as Inspector for nine months	2 70		372 24
	Chief Electrical Engineer.			
Higman, O	Salary as Chief Electrical Engineer for nine months		1,874 97	
Evans, C. J.	" Mechanic from Dec. 7, '06 to Mch. 31, '07		253 73	
	Salaries		2,128 70	
	Contingencies		686 45	
				2,815 15

SESSIONAL PAPER No. 12

APPENDIX B—*Continued.*

No. 7.—DETAILS of Electric Light Inspection Expenditures for nine months ended March 31, 1907—*Concluded.*

To whom paid.	Service.	Amounts paid.	Total amounts paid.
	General Contingencies.	$ cts.	$ cts.
Ahearn & Soper, Ltd	Wire, 1 motor, voltmeter and repairing field coil	411 34	
"	12 combination switches	12 12	
"	1 5-hrs speed motor, &c	363 05	
"	Electrical supplies	30 35	
Smith, S. & Son	14 cronographes	204 40	
American Bank Note Co	Stamps supplied	100 00	
Crompton & Co., Ltd	1 Wheatstone bridge	121 67	
Hungerford, W. T., Brass & Copper Co	180 lbs. of copper	64 80	
Canadian General Elec. Co	1 test meter	60 20	
Collector of Customs	Duty paid on imported goods	63 27	
Goodwin, G	Laying in concrete 125 conduits for cables	40 00	
Shedrick Rigby Co., Ltd	For repairing wattmeter	10 80	
Weston Electrical Instrument Co.,	For repairing 2 voltmeters and 1 wattmeter, freight, &c	34 51	
The Robert Mitchell Co. Ltd	6 brass brackets	24 00	
Marchand, P. E. & Co	1 transformer 50 to 1000 volt	20 00	
Garrioch, Godard & Co	1 doz. fuse blocks	1 80	
Canadian Pacific Ry Co.	Freight	6 92	
Grand Trunk Ry. System	"	11 22	
Ottawa and N. Y. Ry.	"	0 86	
The Canadian Express Co	Express charges	12 15	
The Dominion Express Co	"	24 40	
The American Express Co	"	2 00	
Mahoney, J.	Cartage	0 50	
Frechette, L. A.	Technical translation	1 00	
	Total electric light contingencies		1,621 36
	Grand total		9,598 25
	ADD—Printing	301 93	
	Stationery	44 92	
			346 85
	Actual disbursements, agreeing with statement No. 25, page 56		9,945 10

W. J. GERALD,
Deputy Minister.

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

APPENDIX B—*Continued.*

No. 8.—List of Permanent Employees of the Inland Revenue Department employed on Salary, during the nine months ended March 31, 1907.

Names.	Services.						
	Inside.	Excise.	Weights and Measures.	Gas.	Electric Light Inspection.	Preventive.	Food Inspection.
Aaron, J. D		1					
Adam, A. R.		1					
Adams, J. S.		1					
Alexander, Thos		1					
Allen, G. A		1					
Alteman, Peter J		1					
Amor, Wm		1					
Andrews, A. A		1					
Armstrong, Walter		1					
Auger, L. H.		1					
Aubin, A				1	1		
Aubin, Chs				1	1		
Baby, W. A. D		1					
Baikie, D		1					
Barber, J. S		1					
Barnes, G.		1					
Barrett, J. K		1					
Barry, James			1				
Bavard, Gilbert A		1					
Beard, Miss M. H.	1						
Beaulac, J. H			1				
Beaulieu, J. B.		1					
Bélair, A. (Plessis dit)		1					
Belisle, E							1
Bell, J. H.				1	1		
Belleperche, A. J. E		1					
Belyea, T. H		1					
Béneteau, S.		1					
Bennett, James		1					
Benoit, L. V.		1		1			
Bernard, N. J. D		1					
Bernier, J. A			1				
Berry, H. L.		1					
Bickle, J. W		1		1			
Bishop, J. B.		1					
Blackman, C.		1					
Blethen, C. W		1					
Blyth, Alex.		1					
Bolduc, Ephrem			1				
Bonner, J. D.					1		
Boomer, J. B		1					
Boudet, E.			1				
Bourget, L. J			1				
Bourget, O		1					
Bourgeois, C.		1					
Bourgeois, J. E	1						
Bousquet, J. O		1					
Bouteiller, G. A		1					
Bowen, F. C.		1		1	1		
Bowman, Allan		1					
Boyd, J. F. S.		1					
Boyd, S. I.		1					
Boyle, P.		1					
Brabant, J. B. G. N		1					
Brain, A. F.		1					
Breen, John			1				
Brennan, D. J.		1					
Brennan, John.		1					
Brentnall, F. F		1					

APPENDIX B—*Continued.*

No. 8.—List of Permanent Employees of the Inland Revenue Department, 1906–1907—*Continued.*

Names.	Services.						
	Inside.	Excise.	Weights and Measures.	Gas.	Electric Light Inspection.	Preventive.	Food Inspection.
Bridgman, M. W		1					
Broadfoot, S		1		1			
Brodeur, P. E. S	1						
Brown, W. J		1					
Browne, G. W		1					
Burgess, Thomas H			1				
Burke, T		1					
Burns, John	1						
Burns, R. J		1					
Cahill, J. H		1					
Cahill, J. W		1					
Cameron, D. M		1					
Campeau, F. R. E	1						
Carroll, D		1					
Carroll, F. P		1					
Carter, William	1						
Casey, John		1					
Caven, A		1					
Caven, W		1					
Chagnon, C. P		1					
Chalus, J. O			1				
Charbonneau, E	1						
Chartier, Etienne		1					
Chateauvert, G. E	1						
Cheseldine, J. H		1					
Chilver, F. W		1					
Chisholm, J. J			1				
Chisholm, W. N		1					
Clark, James Alfred		1					
Clarke, Thomas		1					
Codd, Herber J. S		1					
Code, Abraham		1					
Coleman, Charles		1					
Coleman, J. J		1					
Coles, F. H		1					
Collins, D			1				
Comte, L. A. A. J		1					
Conklin, W. M		1					1
Cook, W. R		1					
Costello, J. W			1				
Costigan, J. J		1					1
Cotter, W. F				1	1		
Coughlin, D			1				
Coulter, Alex		1					
Courchesne, P. H. E		1					
Courtney, J. J		1					
Coutts, J. J		1					
Crawford, W. P		1					
Crevier, J. H		1					
Cryderman, C. W		1					
Dager, H. J		1					
Daignault, G		1					
Daoust, J. A			1				
Daveluy, J. P		1					
David, T		1					
Davis, T. G		1					
Davy, Edward			1				
Dawson, W		1					
Deland, A. N		1					

APPENDIX B—*Continued.*

No. 8.—List of Permanent Employees of the Inland Revenue Department, 1906–1907—*Continued.*

Names.	Services.						
	Inside.	Excise.	Weights and Measures.	Gas.	Electric Light Inspection.	Preventive.	Food Inspection.
Dennis, W. A.		1					
Deely, F				1			
Desaulniers, E. L	1						
Desaulniers, J. E. A		1					
Dessert, V			1				
Dibblee, William		1					
Dick, J. W		1					
Dickson, C. T		1					
Dingman, N. J		1					
Dixon, H. G. S		1					
Doyle, B. J		1					
Doyle, E. F	1						
Doyon, J. A	1						
Dudley, W. H		1					
Dufresne, J. U					1		
Dumaine, J. D. E		1					
Dumbrille, R. W		1					
Dumouchel, Léandre		1					
Dunlop, C		1					
Dumé, J. P	1						
Duplessis, C. Z		1					
Dustan, W. M			1				
Dwyre, D. T		1					
Earl, R. W		1					
Egan, Wm		1					
Egener, A		1					
Elliott, W. J		1					
Evans, G. T		1					
Fahey, Ed		1					
Falconer, James		1					
Falconer, R. H		1					
Ferguson, John C		1					1
Fiddes, James		1					
Fielding, Laura G		1					
Findlay, R			1				
Findley, Hugh			1				
Fitzgerald, E. W			1				
Fitzpatrick, W. J		1					
Fleming, C		1					
Fletcher, R. W		1					1
Floody, E						1	
Flynn, D. J		1					
Forest, E. R		1					
Forest, M		1					
Fortier, J. J. O		1					
Foster, J. Henry		1					
Fowler, George	1						
Fox, J. D		1					
Fox, Thomas		1					
Frame, Archibald			1				
Frankland, H. R		1					
Fraser, P		1					
Freed, A. T			1				
Freeland, Anthony		1					
Furlong, C. J	1						
Fyfe, James			1				
Gamache, J. H		1					
Gauvin, E		1					

APPENDIX B—*Continued.*

No. 8.—List of Permanent Employees of the Inland Revenue Department, 1906-1907—*Continued.*

Names.	Services.						
	Inside.	Excise.	Weights and Measures.	Gas.	Electric Light Inspection.	Preventive.	Food Inspection.
Geldart, O. A.		1					
George, John		1					
Gerald, C.		1					
Gerald, W. H.		1					
Gerald, W. J.	1						
Gervais, J. H	1						
Gilby, W. F.			1				
Gill, Wm.		1					
Gillies, Archibald L.		1					
Girard, Irénè		1					
Girdlestone, R. J. M.		1	1				
Goodhue, M. L. E. B.	1						
Goodman, A. W		1					
Gorman, Arthur M.		1					
Gosnell, T. S		1					
Gow, J. E.		1					
Graham, A. L.		1					
Graham, W. J.		1		1			
Graham, W. T.		1					
Grant, H. H		1					
Gravel, A. I.			1				
Graveline, D. P.		1					
Grimason, Thomas.		1					
Grosbois (de), Chas. B.		1					
Guay, Alphonse			1				
Hagan, James		1					
Hagarty, P		1					
Hagerty, B.	1						
Hall, H. C.		1					
Halliday, W. A	1						
Hammond, T. W		1					
Hanley, A.		1					
Hanlon, J. R.		1					
Harbottle, N		1					
Harwood, J. O. A		1					
Hawkins, W. L.		1					
Hayhurst, T. H.		1					
Hayward, W. J.			1				
Hébert, C. D		1					
Hébert, J. A. P.			1				
Helliwell, H. N		1					
Henderson, W.		1					
Henwood, George		1					
Hesson, C. A		1					
Hicks, W. H		1		1			
Higman, O				1	1		
Himsworth, Wm.	1						
Hinchey, E. H.		1					
Hobbs, G. N.		1					
Hodder, W. E.		1					
Hogan, James		1					1
Howard, W. W. S.		1					
Howden, R		1					
Howell, Thomas.		1					
Howie, A.		1					
Hubley, H. H		1					
Hudon, L. E.	1						
Hughes, Henry			1				
Hughes, P. A	1						

APPENDIX B—*Continued.*

No. 8.—List of Permanent Employees of the Inland Revenue Department, 1906-1907—*Continued.*

Names.	Services.						
	Inside.	Excise.	Weights and Measures.	Gas.	Electric Light Inspection.	Preventive.	Food Inspection.
Hughes, R. A.			1				
Hunter, W. M				1	1		
Hurst, Levi B		1					
Iler, B.		1					
Ironside, G. A.		1					
James, T. C.		1					
Jameson, S. B.		1					
Jamieson, R. C.		1					
Jeffrey, A. J.		1					
Johnson, C. W.			1	1			
Johnson, J. J.		1					
Johnson, Wm.			1	1	1		
Johnston, C. W			1	1			
Johnstone, J. K				1	1		
Jones, Andrew.		1					
Jones, Richard.		1		1	1		
Jubenville, J. P.		1					
Kearny, D. J		1					
Keay, W. S.		1					
Keeler, G. S		1					
Keilty, T		1					
Kelly, Daniel			1				
Kelly, J. F.						1	
Kenning, J. H.		1					
Kenny, John		1					
Keogh, P. M.		1					
Kidd, Thomas							1
King, R. M.		1					
Kirkpatrick, A. J.		1					
Knowles, C			1				
Labelle, L. V		1					
Ladouceur, J.							1
Laidman, Richard H.			1				
Lambert, J. A.		1					
Lamoureux, J. A.		1					
Lane, T. M.		1					
Langelier, François		1					
Laporte, Geo		1					
LaRivière, A. C.		1					
LaRue, J. B. Alexandre		1					
Laurence, G. C.			1				
Laurier, J. L.		1					
Lawless, E. M.	1						
Lawlor, H.		1					
Lawlor, John J.		1					
LeBel, J. A. W.			1				
Leblanc, F. X			1				
Lee, Edward.		1					
Ledoux, Alexina.		1					
LeMoine, Jules		1					
LeVasseur, N				1	1		
Liddle, D			1				
Logan, John		1					
Long, W. H. A.		1					
Longtin, H		1					
Love, G. J.		1					
Lyons, E		1					
Macdonald, A. B.		1					
Macdonald, J. A.			1				

APPENDIX B—*Continued.*

No. 8.—List of Permanent Employees of the Inland Revenue Department, 1906-1907—*Continued.*

Names.	Services.						
	Inside.	Excise.	Weights and Measures.	Gas.	Electric Light Inspection.	Preventive.	Food Inspection.
Macdonald, J. F.			1	1	1		
Macfarlane, Thos.							1
Macgregor, D. C.		1					
Mackenzie, J. H.		1					
Mager, Joseph G.			1				
Magness, Robt.			1	1	1		
Mahoney, H.		1					
Mainville, C. P.		1					
Male, Thomas.				1			
Maranda, N. A.		1					
Marentette, Alex.			1				
Marin, L. H.		1					
Marion, H. R.		1					
Marrion, A. H.		1					
Marshall, I. N.		1					
Marshall, R.			1				
Martin, N.		1					
Mason, F.		1					
Maurice, E.		1					
Metcalf, W. F.		1					
Melville, T. R.		1					
Miller, J. E.		1		1	1		
Miller, W. F.		1					
Millier, Elie		1					
Milligan, R. J.			1				
Milliken, E.		1					
Milot, J. F.		1					
Montgomery, W. H.		1					
Moore, T.		1					1
Moreau, A.		1					
Morin, J. P.			1				
Morris, T. H.		1					
Morrisette, F.		1					
Mulhern, M. M.		1		1			
Munro, H. D.		1		1			
Murdoch, James.			1				
Murphy, F.				1	1		
Murray, A. E.		1					
Murray, David		1					
McAloney, Joseph A.		1	1	1			
McArthur, G. H.		1					
McCloskey, J. R.		1					
McCoy, Wm.		1					
McCraney, H. P.		1					
McCuaig, Aug. F.		1					
McCullough, A.	1						
McCutcheon, H.		1					
McDonald, A. J.		1					
McDonald, A. W.			1				
McFarlane, J.			1				
McFee, C.		1					
McGill, A.							1
McGowan, J.		1					
McGuire, L. J.		1					
McGuire, T.		1					
McKay, R.			1				
McLenaghan, N.		1					
McNiven, J. D.		1					
McPherson, E. A.		1					

APPENDIX B—*Continued.*

No. 8.—List of Permanent Employees of the Inland Revenue Department, 1906-1907—*Continued.*

Names.	Services.						
	Inside.	Excise.	Weights and Measures.	Gas.	Electric Light Inspection.	Preventive.	Food Inspection.
McPhie, Donald				1	1		
McPhie, W. H.				1			
McSween, James		1					
Nash, A. F.				1	1		
Nash, S. C.		1					
Neil, James		1					
Newby, F.	1						
Newsome, I.		1					
Nicholas, B. C.	1						
Nicholls, J. T.		1					
Noonan, H. T.		1					
Normandin, G.		1					
O'Brien, E. C.		1					
O'Brien, James		1					
O'Brien, J. F.		1					
O'Donnell, J.		1					
O'Donnell, M. J.		1					
O'Donohue, M. J.		1					
O'Flaherty, E. J.		1					
O'Flaherty, M. J.				1			
O'Leary, T. J.		1					
Orr, Henry N.		1		1			
O'Sullivan, D.		1					1
Panneton, G. E.		1					
Pape, James				1	1		
Parent, F.		1					
Parent, Paul			1				
Parker, Thomas			1				
Parkinson, Edward B.		1					1
Parson, C. H.		1					
Patry, J. H.		1					
Patterson, C. E. A.		1					
Pelletier, N. G.		1					
Petit, J. B.			1				
Poirier, J. N.		1					
Pole, C. W.		1					
Popham, F. H.		1					
Portelance, P. A.		1					
Potvin, Napoléon	1						
Powell, J. B.		1					
Power, J. F.		1					
Préfontaine, F. H.			1				
Prosser, Elijah						1	
Provost, I. E.					1		
Quain, Redmond	1						
Quinn, J. D.		1					
Ralston, T.		1					
Renaud, A. H.		1					
Rennie, George		1		1			
Ridgman, A. H.		1					
Rinfret, C. I.		1					
Ritchie, A. J.				1	1		
Ritchie, R.		1					
Robins, S. W.			1				
Roche, H. G.				1	1		
Rork, T.		1		1			
Rose, John A.		1					
Ross, H. E.			1				
Rouleau, C. E.		1					

APPENDIX B—*Continued.*

No. 8.—List of Permanent Employees of the Inland Revenue Department, 1906-1907—*Continued.*

Names.	Services.						
	Inside.	Excise.	Weights and Measures.	Gas.	Electric Light Inspection.	Preventive.	Food Inspection.
Rouleau, J. C., jr		1					1
Rousseau, Elzéar H		1					
Rowan, W. E		1					
Roy, C. E			1				
Roy, L. G	1						
Rudkins, W		1		1	1		
Ryan, Wm		1					
Sanderson, A. E							1
Saucier, X		1					1
Schram, R. L. H		1					
Scullion, W. J		1					
Shanacy, M		1		1			
Shaw, J. F	1						
Simpson, A. F		1		1	1		
Simpson, W. A		1					
Slattery, R		1					
Slattery, Thomas			1				
Sloan, W		1					
Smith, J. C			1				
Snowdon, J. W		1					
Sparling, J. W		1					
Spence, F. H		1					
Spereman, J. J		1					
Standish, J. G		1					
Stewart, James		1					
Saint-Michel, F. X		1					
Stratton, W. C		1					
Stuart, W. E				1			
Swannell, F. W		1					
Talbot, John		1					
Taylor, G. W		1					
Tétreault, J		1					
Thérien, J. F			1				
Thomas, J. S			1				
Thomas, Robert		1					
Thorburn, J		1					
Thurber, J		1					
Till, T. M		1					
Timmons, R		1					
Tobin, Thomas		1					
Tomlinson, W. M			1				
Tompkins, P		1					
Toupin, F. X. J. A		1					
Tracy, J. P		1					
Trasher, W. A		1					
Trumpour, G	1						
Valin, J. E	1						
Verner, Francis		1					
Verner, Thomas H		1					
Walker, J. H		1					
Walsh, Daniel J		1					
Walsh, W. H		1					
Wardell, R. S. R		1					
Watson, V. M	1						
Waugh, R. J			1				1
Webbe, C. E. A		1					
Westman, T	1						
Wheatley, Alfred E			1				
White, J. B		1					

APPENDIX B—*Continued.*

No. 8.—List of Permanent Employees of the Inland Revenue Department, 1906–1907—*Concluded.*

Names.	Services.						
	Inside.	Excise.	Weights and Measures.	Gas.	Electric Light Inspection.	Preventive.	Food Inspection.
Whitehead, J. P		1					
Whyte, J. A				1			
Wilson, David		1					
Wilson, H. R		1					
Wilson, J. E				1	1		
Winsor, John A			1				
Wolfenden, William		1		1			
Wood, James A		1					
Woodward, G. W		1					
Wright, Robert J			1				
Wright, S. E							1
Yetts, R. P	1						
Young, R. E		1					
Totals	35	347	70	44	26	3	18

SESSIONAL PAPER No. 12

APPENDIX B—*Continued.*

No. 9.—List of Permanent Employees of the Inland Revenue Department employed on Salary during only a portion of the nine months ended March 31, 1907.

Names.	Period.	Services.						
		Inside.	Excise.	Weights and Measures.	Gas.	Electric Light Inspection.	Preventive.	Adulteration of Food.
Arcand, D.	From March 8 to March 31, 1907		1					
Béland, F. X. W. E.	" September 26, 1906 to March 31, 1907				1	1		1
Bergeron, R. J.	" October 5, 1906 to March 31, 1907		1					
Bisley, M. C.	" January 14 to March 31, 1907		1					
Bruyère, H. P.	" July 1, 1906 to September 30, 1906		1					
Byrne, W. P.	" March 18 to March 31, 1907		1					
Clegg, Jos	" January 14 to March 31, 1907			1				
Cowan, Edgar	" July 1 to October 31, 1906			1				
Desmarais, H. F	" July 1 to July 31, 1906		1					
Downing, D. J.	" March 5 to March 31, 1907		1					
Errett, R. W.	" July 1 to December 31, 1906		1					
Folley, L. R.	" July 1, 1906 to January 31, 1907				1	1		
Gariepy, L. N.	" January 14 to March 31, 1907		1					
Gray, R. S.	" March 1 to March 31, 1907		1					
Griffith, M. L.	" January 14 to March 31, 1907	1						
Guay, A. E.	" October 4, 1906 to March 31, 1907		1					
Harris, J. G.	" July 1, 1906 to January 31, 1907		1					
Higman, O., jr.	" February 21 to March 31, 1907					1		
Jeffereys, E. J.	" January 24 to March 31, 1907		1					
Johnston, H. J.	" March 18 to March 31, 1907		1					
Kelly, M. J.	" July 1 to Dec. 31, 1906			1				
LaRue, A. P.	" July 1 to September 30, 1906		1					
LaRue, Geo.	" July 1, 1906 to February 21, 1907		1					
Macfarlane, A. C.	" March 6 to March 31, 1907							1
Marcon, F. E.	" July 1 to September 7, 1906		1					
Martineau, J. O. E.	" October 5, 1906 to March 31, 1907		1					
Moreau, J. H.	" July 1, 1906 to February 28, 1907			1	1			
Morgan, E. J.	" October 15, 1906 to March 31, 1907		1					
Murphy, J. L.	" July 1 to August 31, 1906		1					
Pleasance, W.	" July 3, 1906 to March 31, 1907		1					
Poitras, Wilfrid.	" January 14 to March 31, 1907		1					
Schuler, F. C.	" January 14 to March 31, 1907		1					
Scott, J.	" July 1, 1906 to January 31, 1907			1				
Thomas, R. W.	" July 9, 1906 to March 31, 1907		1					
Valentine, Adam, jr.	" January 14 to March 31, 1907		1					
Wainright, F. G.	" July 1, 1906 to February 28, 1907		1					
Weyms, C.	" July 1 to August 31, 1906		1					
White, H. E.	" January 14 to March 31, 1907		1					
	Totals	1	28	5	3	3		2

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No. 10.—List of Permanent Employees of the Inland Revenue Department employed on salary during the nine months ended March 31, 1907—*Concluded.*

RECAPITULATION.

Employed during the nine months	486
" a portion of the nine months	38
Total	524

Services.

Employed in the Inside Service	36
Excise	346
" Weights and Measures	68
" Gas	7
" Electric Light Inspection	4
" Preventive Service	3
" Food Inspection	8
" Excise, Weights and Measures and Gas	1
" " and Gas	12
" " and Food Inspection	10
" Weights and Measures and Gas	2
" Gas and Electric Light Inspection	16
" Excise, Gas and Electric Light Inspection	5
" Weights and Measures, Gas and Electric Light Inspection	3
" " " and Excise	1
" " " and Food Inspection	1
" Gas, Electric Light and Food	1
	524

W. J. GERALD,
Deputy Minister.

Inland Revenue Department,
Ottawa, May 31, 1907.

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Ralston, T	Duty-pay	130
"	Salary	119
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Rinfret, Dr. C. I	Contingencies and salary	125
"	"	126
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"	" and salary	147
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Ross, A. D	Commission	127
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"	Salary	123
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REPORT, RETURNS AND STATISTICS

OF THE

INLAND REVENUES

OF THE

DOMINION OF CANADA

FOR THE NINE MONTHS ENDED MARCH 31

1907

PART II

INSPECTION OF WEIGHTS AND MEASURES, GAS AND ELECTRIC LIGHT

PRINTED BY ORDER OF PARLIAMENT

OTTAWA
PRINTED BY S. E. DAWSON, PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1907

[No. 13—1907.]

REPORT

OF THE

DEPUTY MINISTER OF INLAND REVENUE

ON THE

INSPECTION OF WEIGHTS AND MEASURES, GAS AND ELECTRIC LIGHT

To the Honourable

The Minister of Inland Revenue,

Sir,—I have the honour to submit herewith my annual report on the inspection of weights and measures, gas and electric light, with the usual statements in connection therewith, for the fiscal period, nine months, ended March 31, 1907.

1. The total revenue collected during the fiscal period for the inspection of weights and measures was $54,927.26, as against $72,979.43 collected during the year ended June 30, 1906.

2. The total expenditure was $69,466.15 as against $91,518.87 expended during the year ended June 30, 1906.

3. Appendix 'A' gives a summary statement of the receipts and expenditures of each inspection division.

4. In Appendices 'B', 'C' and 'D' will be found a detailed statement of weights, measures and weighing machines presented for verification, verified and rejected during the nine months. The number of all descriptions may be summarily stated as follows:—

——	Presented.	Verified.	Rejected.	Percentage of Rejections.
Weights, Dominion	49,860	49,489	371	0·74
Measures of capacity, Dominion	92,396	92,318	78	0·08
Lineal measures	6,506	6,459	47	0·72
Balances, equal arms	10,297	10,165	132	1·28
" steelyards	3,856	3,806	50	1·29
" platform scales	27,377	26,717	660	2·41
Miscellaneous weights	705	698	7	0·99
" measures of capacity	29,811	29,747	64	0·21
" balances	9,264	9,171	93	1·00

Inspection of Gas.

5. The total revenue collected during the nine months ended March 31, 1907, for the inspection of gas and gas meters, was $31,917 as compared with $41,439.25 collected during the year ended June 30, 1906.

6. The total expenses were $22,636.96 as against $29,063.26 expended during the year ended June 30, 1906.

7. Appendix 'E' gives a summary statement of the receipts and expenditures of each gas inspection district.

8. A statement of the illuminating power and purity of gas inspected during the nine months will be found in Appendix 'F'.

9. The illuminating power, where inspection has been made, has been as follows:—

Places.	Number of tests made.	Number of times below Standard.	Places.	Number of tests made.	Number of times below Standard.
Barrie	9	1	St. Catharines	9	
Belleville	18		St. Thomas	10	
Berlin	9		Toronto	78	
Brockville	14		Windsor	9	4
Chatham	14	6	Woodstock	10	
Cobourg	9		Montreal	77	
Cornwall	9		Quebec	9	
Deseronto	9		Sherbrooke	9	
Guelph	9		St. Hyacinthe	9	
Hamilton	24		Fredericton	9	
Ingersoll	9	3	Moncton	9	
Kingston	18		St. John, N.B.	24	
Listowel	9		Halifax	9	
London	79	1	Yarmouth	8	
Napanee	5		Charlottetown	10	
Ottawa	19		Winnipeg	66	
Owen Sound	9		Nanaimo	5	
Peterborough	17		New Westminster	9	
Port Hope	9		Vancouver	9	
Sarnia	9		Victoria	3	
Stratford	9				

The revenue derived from the inspection of electric light was as follows:—

Fees for inspection of meters, &c		$21,922 05
Registration of companies		4,001 25
		$25,923 30
Less—Expenses of Inspection	$ 6,431 34	
Expended on standard instruments, &c	1,520 36	
		$ 7,951 70
Leaving a net revenue of		$17,971 60

Since the year 1896-97 the two services of gas and electric light inspection, which are conducted largely by the same staff of officers have reached that point at which they have ceased to be a burden upon the general taxpayer, as shown below:—

Years.	Gas and Electric Light.	
	Revenue.	Expenditure.
	$ cts.	$ cts.
*1899-1900	35,523 50	26,424 48
*1900-01	37,536 57	28,247 20
1901-02	45,663 05	33,328 48
1902-03	49,054 55	36,006 47
1903-04	50,218 75	33,426 15
1904-05	62,561 37	34,774 02
1905-06	76,539 00	38,917 48
1906-07 (nine months)	57,868 18	30,793 84

* Exclusive of cost of standard instruments.

The kindred service of weights and measures inspection, it will be observed, earns slightly over 79 per cent of its actual cost, the expenditure as already stated having been $69,466.15 against a revenue of $54,927.26.

Sample sets of metric weights and measures are still being supplied to educational institutions throughout the country. Up to the present time about 700 of these sets have been sent out from the Department.

The International Commission on Electrical Units and Standards is to meet in London, England, in the month of October next, and Mr. Ormond Higman, Chief Electrical Engineer, has been appointed as the Canadian representative to attend the discussions.

The Convention of the International Committee of Weights and Measures meets in Paris, France, in the month of October next, and Mr. James Fyfe, Chief Inspector of Weights and Measures, has been appointed as the representative of the Dominion of Canada at the meeting of this Convention.

I have the honour to be, sir,

Your obedient servant,

W. J. GERALD,

Deputy Minister.

Inland Revenue Department,

Ottawa, May 31, 1907.

APPENDIX A.

STATEMENT of Weights and Measures Expenditures and Revenues for Nine Months ended March 31, 1907.

Divisions.	Inspectors and Assistants.	Expenditures. Salaries.	Special Assistance.	Seizures.	Rent.	Travelling Expenses.	Sundries.	Total.	Revenues.
		$ cts.	$ cts.	$ c.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Belleville	Johnson, Wm. Slattery, Thos. Errett, R. W. Johnston, C. W. Gallagher, Thos. Kylie, Richard. Howson, G. H.	2,537 46	320 88	..	269 58	1,052 19	312 65	4,492 76	2,653 15
Hamilton	Freed, A. T. Marentette, A. Fitzgerald, E. W. Laidman, R. H. Wheatley, A. E. Robins, S. W. Clegg, Joseph	4,161 46	257 35	...	.. ..	1,139 12	76 24	5,634 17	7,493 51
Ottawa	Macdonald, J. A. McFarlane, J. Winsor, J. A. Breen, John. Findlay, Robt. Scott, Joseph.	3,527 25	....		62 52	747 01	63 64	4,400 42	2,495 22
Toronto	Kelly, D Milligan, R. J. Wright, R. J. Murdoch, J. Smith, J. C. Cruikshank, J. L.	3,337 38	238 33	...	....	1,055 20	79 23	4,710 14	7,558 45
Windsor	Hayward, W. J. Hughes, R. A Thomas, J. S Coughlin, D. Liddle, D.	3,374 76	.....	13 30	.....	1,159 28	172 84	4,720 18	6,843 90
	Ontario	16,938 31	816 56	13 30	332 10	5,152 80	704 60	23,957 67	27,044 23

APPENDIX A—*Continued.*

STATEMENT of Weights and Measures Expenditures and Revenues for Nine Months ended March 31, 1907—*Continued.*

Divisions.	Inspectors and Assistants.	Expenditures.							Revenues
		Salaries.	Special Assistance.	Seizures.	Rent.	Travelling Expenses.	Sundries.	Totals.	
		$ cts.	$ cts.	$ c.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Montreal..	Chalus, J. O..... Daoust, J. A. ... Hébert, J. A. P.. Boudet, E..... Collins, D... .. Beaulac, J. H.... Hall, H. C. Galipeau, J. B. .. Wilson, J. C.....	4,574 79	597 57	. ..	380 25	1,131 97	168 20	6,852 78	10,631 35
Quebec.	Roy, Chs. E..... Guay, Alphonse.. Petit, J. B. . .... Kelly, M. J... .. Knowles, Chs. ... LeBel, J. A. W.. Préfontaine, F. H Bourget, L. J..... Parent, P ..... Bujeaud, J. F .. Caldwell, A. B....	5,326 29	199 98	....	225 00	1,036 25	114 62	6,902 14	3,116 45
St. Hyacinthe....	Morin, J. P..... Tomlinson, W. M. Dessert, V.. .... Therrien, J. P....	2,225 75	.....	....	....	731 30	110 16	3,067 21	1,938 72
Three Rivers	Gravel, A. I..... Boldue, E.....	1,199 97	.....	...	... .	77 60	27 80	1,305 37	257 45
	Quebec.....	13,326 80	797 55	....	605 25	2,977 12	420 78	18,127 50	15,943 97
St. John, N.B.	Barry, Jas.... .. Cowan, E..... Leblanc, F. X.... Bernier, J. A. ... White, H. E.....	2,157 50	270 21	....	....	595 01	46 54	3,069 26	2,275 57
Cape Breton	Laurence, G. C.. ..	637 50	.....	...	37 50	244 57	20 00	939 57	454 20
Halifax. ..	Franne, A ..... Wangh, R. J.. ... Sargent, W. . .	1,274 94	599 94	....	225 00	403 41	110 02	2,613 31	882 39
Picton.....	Dustan, Wm. .... Chisholm, J. J . .	1,274 97	.....	....	....	136 46	51 40	1,462 83	311 43
	Nova Scotia	3,187 41	599 94	...	262 50	784 44	181 42	5,015 71	1,648 02
Charlottetown, P.E.I.	Davy, Ed. ..... Hughes, Henry...	1,237 41	.....	....	.....	173 30	38 04	1,448 75	397 36
Winnipeg, Man.	Magness, R. .... McKay, R.. . Girdlestone, R.J.M McDonald, A. W.. Mager, J. G..... Gilby, W. F . Spicer, Henry. ...	2,812 38	250 00	....	....	1,390 33	162 17	4,614 88	5,595 94

APPENDIX A—*Concluded.*

STATEMENT of Weights and Measures Expenditures and Revenues for Nine Months ended March 31, 1907—*Concluded.*

Divisions.	Inspectors and Assistants.	Expenditures. Salaries.	Special Assistance.	Seizures.	Rent.	Travelling Expenses.	Sundries.	Totals.	Revenues.
		$ cts.	$ cts.	$ c.	$ cts	$ cts.	$ cts.	$ cts	$ cts.
Calgary, Alta.....	Saucier, X..... Costello, J. W....	749 91	.....	....	...	263 05	15 95	1,028 91	588 20
Nelson.. ...	Parker, Thos.	675 00	.....	....	131 00	568 90	34 60	1,409 50	779 00
Vancouver..	Marshall, Robt.... Findley, H. . . McAloney, J. A..	1,612 44	.....	....	365 00	34 15	170 88	2,182 47	643 95
	British Columbia..	2,287 44	.....	....	496 00	603 05	205 48	3,591 97	1,422 95
Dawson, Yukon. ..	McDonald, J. F....	749 97	.....	....	.....	196 60	32 50	979 07	57 85

RECAPITULATION.

—	Expenditures. Salaries.	Special Assistance	Seizures.	Rent.	Travelling Expenses.	Sundries.	Totals.	Revenues.
	$ cts	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Ontario.	16,938 31	816 56	13 30	332 10	5,152 80	704 60	23,957 67	27,044 23
Quebec	13,326 80	797 55	.....	605 25	2,977 12	420 78	18,127 50	15,943 97
New Brunswick. ...	2,157 50	270 21	.....	.....	595 01	46 54	3,069 26	2,275 57
Nova Scotia	3,187 41	599 94	.....	262 50	784 44	181 42	5,015 71	1,648 02
Prince Edward Island	1,237 41	.....	...	.....	173 30	38 04	1,448 75	397 36
Manitoba.....	2,812 38	250 00	.....	.....	1,390 33	162 17	4,614 88	5,595 94
Alberta.	749 91	.....	.....	.....	263 05	15 95	1,028 91	588 20
British Columbia....	2,287 44	.....	....	496 00	603 05	205 48	3,591 97	1,422 95
Yukon..	749 97	.....	.....	.....	196 60	32 50	979 07	57 85
Chief Inspector.....	1,950 00	.....	.....	.....	342 30	12 08	2,304 38	.....
General contingencies	.....	.....	.. .	.....	.....	2,200 88	2,200 88	.....
Metric system.....	.....	.....	.....	.....	.....	166 17	166 17	.....
Printing	.....	.....	.....	.....	.....	1,928 58	1,928 58	.....
Stationery	.....	.....	.. .	.....	.....	354 36	354 36	.....
Lithographing.	.....	.....	.....	.....	.....	228 15	228 15	.....
Provisional allowance	.....	.....	.. .	.....	.....	449 91	449 91	.....
								54,974 09
LESS—Refunds as per statement No. 16.	.....	.....	.....	.....	.....	.....	.....	46 83
Grand totals . . .	45,397 13	2,734 26	13 30	1,695 85	12,478 00	7,147 61	69,466 15	54,927 26

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

W. J. GERALD,
Deputy Minister.

APPENDIX

RETURN of Weights and Measures Inspected during the Nine Months ended March 31, each Division, for each Province,

INSPECTION OFFICE.	WEIGHTS.									MEASURES OF CAPACITY.					
	Dominion.			Troy.			Miscellaneous			Dominion.			Miscellaneous.		
	Brought for Verification.	Verified.	Rejected.	Brought for Verification.	Verified.	Rejected.	Brought for Verification.	Verified.	Rejected.	Brought for Verification.	Verified.	Rejected.	Brought for Verification.	Verified.	Rejected.
Belleville	2,041	2,041	....	....	....	....	10	10	...	2,555	2,555	...	32	32	...
Hamilton	9,425	9,378	47	39	39	....	...	....	....	3,885	3,883	2	1,083	1,081	2
Ottawa	4,012	3,964	48	....	....	....	....	....	....	1,513	1,469	44	1,406	1,405	1
Toronto	7,685	7,685	....	6	6	...	...	....	....	20,319	20,319	....	7,619	7,619	...
Windsor	1,944	1,944	...	...	....	...	....	...	....	21,811	21,811	....	47	47	...
Ontario	25,107	25,012	95	45	45	....	10	10	....	50,083	50,037	46	10,187	10,184	3
Montreal	9,621	9,621	....	72	72	...	12	12	....	23,017	23,017	...	16,549	16,489	60
Quebec	5,817	5,542	275	....	....	....	620	613	7	5,004	4,975	29	62	62	...
St. Hyacinthe	1,908	1,908	....	....	....	....	...	....	....	2,642	2,642	....	57	57	...
Three Rivers	534	534	..	..	....	...	....	....	....	291	291	....	14	14	...
Quebec	17,880	17,605	275	72	72	...	632	625	7	30,954	30,925	29	16,682	16,622	60
St. John, N.B	1,616	1,616	....	....	....	....	..	....	..	4,073	4,073	...	2,592	2,592	...
Cape Breton	162	161	1	....	....	....	....	....	....	201	198	3	8	8	...
Halifax	905	905	....	....	....	....	35	35	....	851	851	....	204	203	1
Pictou	218	218	...	...	....	....	....	....	....	394	394	...	55	55	...
Nova Scotia	1,285	1,284	1	....	....	...	35	35	...	1,446	1,443	3	267	266	1
Charlottetown, P.E.I.	447	447	....	...	....	....	3	3	....	64	64	....	20	20	...
Winnipeg, Man	2,536	2,536	....	....	....	..	6	6	....	5,383	5,383	...	54	54	...
Calgary, Alta	102	102	....	....	....	....	....	...	..	108	108	....	5	5	..
Nelson	393	393	..	....	....	....	....	....	....	243	243	...	4	4	.
Vancouver	406	406	....	...	....	....	1	1	....	29	29	..	.....	.....	...
British Columbia	799	799	...	....	...	....	1	1	....	272	272	....	4	4	...
Dawson, Yukon	88	88	....	.	....	..	18	18	....	13	13	....	.....	.....	...
Grand totals	49,860	49,489	371	117	117	....	705	698	7	92,396	92,318	78	29,811	29,747	64

INLAND REVENUE DEPARTMENT,

OTTAWA, May 31, 1907.

SESSIONAL PAPER No. 13

B.

1907, showing the Total Number brought for Verification, Verified and Rejected, for and for the whole Dominion.

Measures of Length.			Balances, &c.												
			Equal Armed.			Steelyards.			Platform Scales, Weigh Bridges, &c.			Miscellaneous.		
Brought for Verification.	Verified.	Rejected.	Brought for Verification.	Verified.	Rejected.	Brought for Verification.	Verified.	Rejected.	Brought for Verification.	Verified.	Rejected.	Brought for Verification.	Verified.	Rejected.
194	194	...	366	366	....	83	83	....	1,236	1,236	...	179	179	....
331	327	4	2,410	2,333	77	1,619	1,593	26	4,826	4,509	317	2,439	2,360	79
409	406	3	662	633	29	85	85	....	1,812	1,726	86	233	230	3
1,010	1,010	....	1,514	1,510	4	317	312	5	1,859	1,825	34	1,636	1,636	....
87	87	...	388	385	3	128	128	....	3,786	3,760	26	1,100	1,100	....
2,031	2,024	7	5,340	5,227	113	2,232	2,201	31	13,519	13,056	463	5,587	5,505	82
3,008	3,008	....	2,152	2,149	3	1,030	1,020	10	4,413	4,368	45	2,086	2,084	2
572	532	40	901	887	14	193	185	8	1,612	1,559	53	61	55	6
236	236	....	320	318	2	105	105	....	1,175	1,129	46	50	50	....
49	49	....	80	80	....	26	26	....	131	131	.....	18	18	....
3,865	3,825	40	3,453	3,434	19	1,354	1,336	18	7,331	7,187	144	2,215	2,207	8
108	108	....	329	329	....	12	12	....	1,202	1,194	8	610	610	....
29	29	....	42	42	...	4	4	....	132	132	....	40	40	....
41	41	....	211	211	....	21	21	....	542	523	19	142	142	....
52	52	...	53	53	....	22	22	....	158	158	...	65	65	....
122	122	....	306	306	..	47	47	....	832	813	19	247	247	...
4	4	....	99	99	.	19	19	....	299	299	.....	23	23	....
234	234	...	535	535	...	72	71	1	3,062	3,043	19	305	303	2
79	79	....	16	16	....	11	11	....	264	259	5	46	46	....
62	62	....	88	88	....	43	43	....	360	358	2	99	98	1
1	1	....	124	124	....	64	64	....	492	492	....	128	128	...
63	63	...	212	212	.	107	107	....	852	850	2	227	226	1
.....	.....	....	7	7	....	2	2	....	16	16	.....	4	4	..
6,506	6,459	47	10,297	10,165	132	3,856	3,806	50	27,377	26,717	660	9,264	9,171	93

W. GERALD,

Deputy Minister.

7-8 EDWARD VII., A. 1908

APPENDIX

RETURN showing the number of Dominion Weights and Lineal Measures of each Nine Months ended

DOMINION

Avoir

INSPECTION DIVISIONS.	60 lbs.	50 lbs.	30 lbs.	20 lbs.	10 lbs.	7 lbs.	5 lbs.	4 lbs.	3 lbs.	2 lbs.	1 lb.	8 ozs.	4 ozs.	2 ozs.
Belleville	...	...	....	...	11	9	68	124	189	416	420	205	188	158
Hamilton	....	146	....	...	3	2	250	99	2,144	2,634	2,357	375	318	306
Ottawa	....	....	....	....	12	12	88	57	195	379	355	485	449	440
Toronto	....	30	4	....	171	3	431	942	595	2,446	1,600	406	280	250
Windsor	....	4	..	....	8	8	53	101	206	408	392	174	162	156
Ontario	...	180	4	....	205	34	890	1,314	3,329	6,283	5,124	1,645	1,397	1,310
Montreal	....	340	....	....	45	34	467	487	694	1,703	1,649	1,152	1,038	964
Quebec	...	37	1	9	44	51	315	456	393	839	860	751	733	682
St. Hyacinthe	..	....	....	....	4	38	112	175	266	351	305	225	194	140
Three Rivers	...	...	..	....	....	...	23	29	60	71	83	76	71	60
Quebec	...	377	1	9	93	123	917	1,147	1,413	2,964	2,897	2,204	2,036	1,786
St. John, N.B.	...	17	1	3	12	5	77	86	146	413	330	164	129	105
Cape Breton	...	....	....	6	2	....	29	.....	47	48	21	8	1	.....
Halifax	....	33	.....	....	....	10	25	56	102	258	201	70	51	47
Pictou	...	...	....	..	1	...	5	10	29	64	54	15	10	10
Nova Scotia	....	33	....	6	3	10	59	66	178	370	276	93	62	57
Charlottetown, P.E.I	....	....	....	....	....	....	13	20	50	158	107	34	27	22
Winnipeg, Man	....	2	1	2	6	25	15	176	131	662	595	212	136	125
Calgary, Alta.	....	..	....	....	....	....	6	...	9	18	16	8	8	7
Nelson	...	....	....	....	....	....	2	12	28	89	90	37	34	30
Vancouver	...	...	...	....	....	2	10	21	9	154	138	33	14	12
British Columbia	....	....	...	....	....	2	12	33	37	243	228	70	48	42
Dawson, Yukon	..	....	...	...	1	...	6	1	11	20	18	10	4	4
Grand totals	....	609	7	20	320	199	1,995	2,843	5,304	11,131	9,591	4,440	3,847	3,458

SESSIONAL PAPER No. 13

C.

Denomination presented for Verification in each Inspection Division during the March 31, 1907.

Weights.									Lineal Measures.									
dupois.							Troy Weights.	Miscellaneous Weights.										Miscellaneous Measures.
1 oz.	8 drs.	4 drs.	2 drs.	1 dr.	½ dr.	Total Number.			6 feet.	5 feet.	1 yard.	½ yard.	2 feet.	1 foot.	½ foot.	100 feet chains.	66 feet chains.	Tape or riband.	Total Number.	
133	73	34	11	2	....	2,641	.....	10	....	....	194	....	....	....	....	....	....	....	194	....
303	259	100	122	16	..	9,425	39	....	....	....	331	....	....	....	....	....	....	....	331	....
415	389	727	7	2	....	4,012	.....	.....	....	....	409	....	....	....	....	....	....	....	409	.....
258	146	80	21	22	...	7,685	6	....	....	....	1,010	....	....	....	....	....	....	....	1,010	.....
133	93	39	5	2	....	1,944	....	.....	....	....	87	....	....	....	....	....	....	....	87	.....
1,242	960	980	166	44	....	25,107	45	10	....	...	2,031	....	....	....	....	....	....	....	2,031	....
616	272	121	46	52	1	9,621	72	12	....	....	3,007	....	....	....	....	1	....	....	3,008	....
463	144	22	7	10	...	5,817	....	620	....	...	572	....	....	....	....	....	....	....	572	....
80	14	2	2	....	....	1,908	....	....	....	....	236	....	....	....	....	....	....	....	236	....
42	16	2	1	....	....	534	....	.....	....	....	49	....	....	....	....	....	....	....	49	.....
1,201	446	147	56	62	1	17,880	72	632	....	....	3,864	....	....	....	....	1	....	....	3,865	.....
80	31	13	3	1	....	1,616	.....	....	..	....	108	....	....	....	....	....	....	....	108	.....
...	.....	..	...	....	..	162	.....	.....	....	....	29	....	....	....	....	....	....	....	29	.....
38	11	1	1	1	....	905	.....	35	...	....	41	....	....	....	....	....	....	....	41	.....
9	8	3	....	....	....	218	....	....	....	....	52	....	....	....	....	....	....	....	52	....
47	19	4	1	1	....	1,285	.....	35	...	....	122	....	....	....	....	....	....	....	122	.....
14	2	....	....	....	...	447	...	3	..	....	4	....	....	....	....	....	....	....	4	.....
141	98	78	51	77	3	2,536	....	6	..	....	234	....	....	....	....	....	....	....	234	....
7	7	6	5	3	2	102	....	..	....	....	78	1	....	....	....	....	....	....	79	...
27	20	17	6	1	....	393	.....	.....	....	....	62	....	....	....	....	....	....	....	62	.....
10	3	....	....	....	...	406	....	1	..	....	1	....	....	....	....	....	....	....	1	....
37	23	17	6	1	....	799	...	1	....	....	63	....	....	....	....	....	....	....	63	.....
4	1	4	1	....	....	88	..	18	....	....	.....	....	....	....	....	....	....	....	.....	.....
2,773	1,590	1,249	289	189	6	49,860	117	705	....	...	6,504	1	....	....	....	1	....	....	6,506	.. ...

7-8 EDWARD VII., A. 1908

APPENDIX

RETURN showing the Number of Dominion Weights and Lineal Measures of each ended March

DOMINION

INSPECTION DIVISION.	Avoir													
	60 lbs.	50 lbs.	30 lbs.	20 lbs.	10 lbs.	7 lbs.	5 lbs.	4 lbs.	3 lbs.	2 lbs.	1 lb.	8 ozs.	4 ozs.	2 ozs.
Belleville	....	....	....	....	11	9	68	124	189	416	420	205	188	158
Hamilton	....	146	....	...	3	2	250	88	2,140	2,629	2,351	368	311	300
Ottawa	....	....	....	....	11	11	72	54	181	369	353	485	448	440
Toronto	....	30	4	....	171	3	431	942	595	2,446	1,600	406	280	250
Windsor	....	4	....	...	8	8	53	101	206	408	392	174	162	156
Ontario	....	180	4	....	204	33	874	1,309	3,311	6,268	5,116	1,638	1,389	1,304
Montreal	....	340	....	....	45	34	467	487	694	1,703	1,649	1,152	1,038	904
Quebec	....	37	1	9	46	49	293	433	376	794	816	710	698	658
St. Hyacinthe	...	....	....	....	4	38	112	175	266	351	305	225	194	140
Three Rivers	....	....	....	...	....	....	23	29	60	71	83	76	71	60
Quebec	...	377	1	9	89	121	895	1,124	1,396	2,919	2,853	2,163	2,001	1,762
St. John, N.B.	....	17	1	3	12	5	77	86	146	413	330	164	129	105
Cape Breton	....	....	...	6	1	....	29	.....	47	48	21	8	1	.....
Halifax	....	33	....	....	....	10	25	56	102	258	201	70	51	47
Pictou	....	....	....	....	1	...	5	10	29	64	54	15	10	10
Nova Scotia	....	33	...	6	2	10	59	66	178	370	276	93	62	57
Charlottetown, P.E.I.	....	....	....	....	....	....	13	20	50	158	107	34	27	22
Winnipeg, Man.	....	2	1	2	6	25	15	176	131	662	595	212	136	125
Calgary, Alta.	....	.	....	....	....	....	6	.....	9	18	16	8	8	7
Nelson	...	....	....	....	....	....	2	12	28	89	90	37	34	30
Vancouver	....	....	....	....	....	2	10	21	9	154	138	33	14	12
British Columbia	....	....	....	....	....	2	12	33	37	243	228	70	48	42
Dawson, Yukon	...	....	....	....	1	....	6	1	11	20	18	10	4	4
Grand totals	....	609	7	20	314	196	1,957	2,815	5,269	11,071	9,539	4,392	3,804	3,428

SESSIONAL PAPER No. 13

C—*Continued.*

Denomination, Verified in each Inspection Division during the Nine Months 31, 1907—*Continued.*

Weights.									Lineal Measures.										Miscellaneous Measures.
dupois.							Troy Weights.	Miscellaneous Weights.	6 feet.	5 feet.	1 yard.	½ yard.	2 feet.	1 foot.	½ foot.	100 feet chains.	66 feet chains.	Tape or Riband.	
1 oz.	8 drs.	4 drs.	2 drs.	1 dr.	½ dr.	Total Number.													
133	73	34	11	2	..	2,041	....	10	....	....	194	..	..	..	..	..	..	..	194	.... ..
299	255	98	122	16	..	9,378	39	....	....	....	327	..	..	..	..	..	..	..	327	.....
415	389	727	7	2	..	3,964	....	.....	....	....	406	..	..	..	..	..	..	..	406	.....
258	146	80	21	22	....	7,685	6	.....	....	....	1,010	..	..	..	..	..	..	..	1,010	.....
133	93	39	5	2	....	1,944	.....	.....	....	....	87	..	..	..	..	..	..	..	87	....
1,238	956	978	166	44	...	25,012	45	10	....	....	2,024	..	..	..	..	..	..	..	2,024	.....
616	272	121	46	52	1	9,621	72	12	....	....	3,007	..	..	..	..	1	..	..	3,008	.....
450	140	21	7	10	...	5,542	.....	613	....	...	532	..	..	..	..	..	..	..	532	....
80	14	2	2	.....	....	1,908	.....	.....	....	...	236	..	..	..	..	..	..	..	236	.....
42	16	2	1	....	..	534	.....	.....	....	...	49	..	..	..	..	..	..	..	49	.....
1,188	442	146	56	62	1	17,605	72	625	....	....	3,824	..	..	..	..	1	..	..	3,825	.....
80	31	13	3	1	....	1,616	..	.....	....	....	108	..	..	..	..	..	..	..	108	.....
.....	.....	.....	.....	.....	....	161	...	.....	....	....	29	..	..	..	..	..	..	..	29	.....
38	11	1	1	1	....	905	.....	35	....	....	41	..	..	..	..	..	..	..	41	.....
9	8	3	..	...	....	218	.....	.....	....	....	52	..	..	..	..	..	..	..	52	.....
47	19	4	1	1	....	1,284	.....	35	....	....	122	..	..	..	..	..	..	..	122	....
14	2	....	...	....	....	447	.....	3	....	....	4	..	..	..	..	..	..	..	4	.....
141	98	78	51	77	3	2,536	... ..	6	....	....	234	..	..	..	..	..	..	..	234	.....
7	7	6	5	3	2	102	....	....	...	...	78	1	..	..	..	..	..	..	79	.....
27	20	17	6	1	..	393	.....	...	..	....	62	..	..	..	..	..	..	..	62	.....
10	3	....	....	....	...	406	...	1	....	....	1	..	..	..	..	..	..	..	1	....
37	23	17	6	1	..	799	.....	1	....	....	63	..	..	..	..	..	..	..	63	.....
4	4	4	1	....	....	88	...	18	....	...	.....	..	..	..	..	..	..	..	...	.....
2,756	1,582	1246	289	189	6	49,489	117	698	....	....	6,457	1	..	..	..	1	..	..	6,459	.....

APPENDIX

RETURN showing the Number of Dominion Weights and Lineal Measures of each ended March

DOMINION

INSPECTION DIVISION.	Avoir													
	60 lbs.	50 lbs.	30 lbs.	20 lbs.	10 lbs.	7 lbs.	5 lbs.	4 lbs.	3 lbs.	2 lbs.	1 lb.	8 ozs.	4 ozs.	2 ozs.
Belleville														
Hamilton								2	4	5	6	7	7	6
Ottawa					1	1	16	3	14	10	2		1	
Toronto														
Windsor														
Ontario					1	1	16	5	18	15	8	7	8	6
Montreal														
Quebec					4	2	22	23	17	45	44	41	35	24
St. Hyacinthe														
Three Rivers														
Quebec					4	2	22	23	17	45	44	41	35	24
St. John, N.B.														
Cape Breton					1									
Halifax														
Pictou														
Nova Scotia					1									
Charlottetown, P.E.I														
Winnipeg, Man.														
Calgary, Alta.														
Nelson														
Vancouver														
British Columbia														
Dawson, Yukon														
Grand Totals					6	3	38	28	35	60	52	48	43	30

INLAND REVENUE DEPARTMENT,

OTTAWA, May 31, 1907.

SESSIONAL PAPER No. 13

C—*Concluded.*

Denomination, Rejected in each Inspection Division during the Nine Months 31, 1907—*Concluded.*

Weights.									Lineal Measures.									
dupois.							Troy Weights.	Miscellaneous Weights.										Miscellaneous Measures.
1 oz.	8 drs.	4 drs.	2 drs.	1 dr.	½ dr.	Total Number.			6 feet.	5 feet.	1 yard.	¼ yard.	2 feet.	1 foot.	½ foot.	100 feet chains.	66 feet chains.	Tape or Riband.	Total Number.	
4	4	2				47					4								4	
						48					3								3	
4	4	2				95					7								7	
13	4	1				275		7			40								40	
13	4	1				275		7			40								40	
						1														
						1														
17	8	3				371		7			47								47	

W. J. GERALD,

Deputy Minister.

APPENDIX

RETURN showing the Number of Dominion Measures of Capacity, Balances and Weighing during the Nine Months

MEASURES OF CAPACITY.

Dominion.

INSPECTION DIVISIONS.	Bushel.	½ Bushel.	Peck.	Gallon.	½ Gallon.	Quart.	Pint.	½ Pint.	Gill.	½ Gill.	Total number.	Miscellaneous.
Belleville	89	93	208	385	435	645	622	78	...	....	2,555	32
Hamilton	....	15	100	683	766	859	1,358	95	6	3	3,885	1,083
Ottawa	2	5	14	336	403	463	221	54	15	....	1,513	1,406
Toronto	115	508	593	3,661	3,677	6,396	5,284	70	15	....	20,319	7,619
Windsor	592	1,223	868	3,248	4,228	5,364	6,155	31	102	....	21,811	47
Ontario	798	1,844	1,783	8,313	9,509	13,727	13,640	328	138	3	50,083	10,187
Montreal	1	906	1,553	3,115	3,606	5,816	6,126	1,705	187	2	23,017	16,549
Quebec	11	105	195	928	1,236	1,161	939	350	74	5	5,004	62
St. Hyacinthe	....	110	110	445	653	721	365	203	35	....	2,642	57
Three Rivers	1	15	16	58	69	59	43	23	7	...	291	14
Quebec	13	1,136	1,874	4,546	5,564	7,757	7,473	2,281	303	7	30,954	16,682
St. John, N.B.	....	321	143	851	1,297	839	378	242	2	....	4,073	2,592
Cape Breton	....	....	...	49	63	69	17	3	....	....	201	8
Halifax	....	11	14	139	288	218	117	58	6	....	851	204
Pictou	....	7	7	89	183	79	24	5	...	....	394	55
Nova Scotia	...	18	21	277	534	366	158	66	6	...	1,446	267
Charlottetown, P. E. I.	....	....	....	2	14	47	1	....	....	....	64	20
Winnipeg, Manitoba	20	....	10	796	1,152	1,970	1,213	222	...	....	5,383	54
Calgary, Alberta	....	....	11	25	38	20	12	2	....	....	108	5
Nelson	....	....	1	68	65	72	26	3	2	6	243	4
Vancouver	....	....	....	2	....	13	14	....	....	....	29	.....
British Columbia	....	....	1	70	65	85	40	3	2	6	272	4
Dawson, Yukon	....	....	....	6	4	2	1	....	....	....	13	....
Grand totals	831	3,319	3,843	14,886	18,177	24,813	22,916	3,144	451	16	92,396	29,811

SESSIONAL PAPER No. 13

D.

Machines of Each Denomination, Presented for Verification, in each Inspection Division, ended March 30, 1907.

BALANCES.

With equal arms.				Steelyards with divided arms.				Weigh Bridges or Platform Scales.							
5 lbs. and under.	6 lbs. to 50 lbs.	51 lbs. to 100 lbs.	101 lbs. and upwards.	500 lbs. and under.	501 lbs. to 1,000 lbs.	1,001 lbs. to 2,000 lbs.	2,001 lbs. and upwards.	250 lbs. and under.	251 lbs. to 500 lbs.	501 lbs. to 2,000 lbs.	2,001 lbs. to 4,000 lbs.	4,001 lbs. to 6,000 lbs.	6,001 lbs. and upwards.	Total.	Miscellaneous.
117	248	1	....	80	1	....	2	288	95	359	138	73	283	1,685	179
959	1,451	....	....	1,607	8	4	....	2,539	87	1,709	187	65	239	8,855	2,439
478	179	5	....	51	....	34	....	688	98	853	64	48	61	2,559	233
435	1,076	2	1	272	33	7	5	698	99	740	126	26	170	3 690	1,636
172	216	....	....	125	3	....	....	587	39	2,567	134	57	402	4,302	1,100
2,161	3,170	8	1	2,135	45	45	7	4,800	418	6,228	649	269	1,155	21,091	5,587
645	1,505	1	1	1,003	21	....	6	1,856	696	1,518	125	76	142	7,595	2,086
173	703	1	24	193	....	....	....	570	656	343	15	10	18	2,706	61
68	252	....	....	105	....	....	....	392	237	402	11	57	76	1,600	50
19	61	....	....	26	....	....	....	37	35	42	2	8	7	237	18
905	2,521	2	25	1.327	21	....	6	2,855	1,624	2,395	153	151	243	12,138	2,215
100	228	1	....	12	....	....	....	536	223	326	22	18	77	1,543	610
13	29	....	....	1	3	....	....	70	12	11	.....	6	33	178	40
64	142	....	5	21	..	....	....	290	51	115	10	12	64	774	142
19	34	....	....	22	....	....	....	64	41	37	2	1	13	233	65
96	205	....	5	44	3	....	....	424	104	163	12	19	110	1,185	247
17	82	....	....	19	....	....	....	79	53	139	7	7	14	417	23
180	355	....	....	70	1	1	..	924	36	682	250	591	579	3,669	305
10	6	....	....	11	....	....	..	55	5	90	14	35	65	291	46
55	33	..	....	22	1	20	....	146	11	137	16	6	44	491	99
81	43	..	....	59	3	2	....	239	26	192	22	6	7	680	128
136	76	....	....	81	4	22	....	385	37	329	38	12	51	1,171	227
5	2	....	..	1	....	....	1	7	....	7	2	..	.....	25	4
3,610	6,645	11	31	3,700	74	68	14	10,065	2,500	10,269	1,147	1,102	2,294	41,530	9,264

APPENDIX

RETURN showing the Number of Dominion Measures of Capacity, Balances and Weighing
Nine Months ended

Inspection Division.	Measures of Capacity. Dominion.											
	Bushel.	½ Bushel.	Peck.	Gallon.	½ Gallon.	Quart.	Pint.	½ Pint.	Gill.	½ Gill.	Total Number.	Miscellaneous.
Belleville	89	93	208	385	435	645	622	78	....	...	2,555	32
Hamilton	....	15	99	682	766	859	1,358	95	6	3	3,883	1,081
Ottawa	1	3	11	320	391	454	220	54	15	.. .	1,469	1,405
Toronto	115	508	593	3,661	3,677	6,396	5,284	70	15	....	20,319	7,619
Windsor	592	1,223	868	3,248	4,228	5,364	6,155	31	102	..	21,811	47
Ontario	797	1,842	1,779	8,296	9,497	13,718	13,639	329	138	3	50,037	10,184
Montreal	1	906	1,553	3,115	3,606	5,816	6,126	1,705	187	2	23,017	16,489
Quebec	11	105	193	923	1,226	1,154	934	350	74	5	4,975	62
St. Hyacinthe	....	110	110	445	653	721	365	203	35	....	2,642	57
Three Rivers	1	15	16	58	69	59	43	23	7	....	291	14
Quebec	13	1,136	1,872	4,541	5,554	7,750	7,468	2,281	303	7	30,925	16,622
St. John, N.B.	....	321	143	851	1,297	839	378	242	2	...	4,073	2,532
Cape Breton	....	....	.....	47	63	69	16	2	....	....	198	8
Halifax	....	11	14	139	288	218	117	58	6	....	851	203
Pictou	....	7	7	89	183	79	24	5	....	....	394	55
Nova Scotia	....	18	21	275	534	366	157	66	6	....	1,443	266
Charlottetown, P. E. I.	....	....	.. ..	2	14	47	1	.....	....	..	64	20
Winnipeg, Man.	20	. ..	10	796	1,152	1,970	1,213	222	...	....	5,383	54
Calgary, Alta.	....	....	... .	11	25	38	20	12	2	....	108	5
Nelson	...	.....	1	68	65	72	26	3	2	6	243	4
Vancouver	...	....	... ..	2	....	13	14	.....	...	....	29	.....
British Columbia	....	. .	1	70	65	85	40	3	2	6	272	4
Dawson, Yukon	...	.... .	.....	6	4	2	1	... .	....	...	13	.....
Grand totals	830	3,317	3,826	14,848	18,142	24,815	22,917	3,154	453	16	92,318	29,747

SESSIONAL PAPER No. 13

D—*Continued.*

Machines of each Denomination, Verified, in each Inspection Division, during the March 31, 1907.

BALANCES.

With equal arms.				Steelyards with Divided Arms.				Weigh Bridges or Platform Scales.							
5 lbs. and under.	6 lbs. to 50 lbs.	51 lbs. to 100 lbs.	101 lbs. and upwards.	500 lbs. and under.	501 lbs. to 1,000 lbs.	1,001 lbs. to 2,000 lbs.	2,001 lbs. and upwards.	250 lbs. and under.	251 lbs. to 500 lbs.	501 lbs. to 2,000 lbs.	2,001 lbs. to 4,000 lbs.	4,001 lbs. to 6,000 lbs.	6,001 lbs. and upwards.	Total.	Miscellaneous.
117	248	1	....	80	1	..	2	288	95	359	138	73	283	1,685	179
950	1,383	..	....	1,521	8	4	..	2,441	81	1,583	159	60	185	8,435	2,360
466	163	4	....	51	...	34	...	656	88	830	57	39	56	2,444	230
434	1,073	2	1	267	33	7	5	689	98	724	122	26	166	3,647	1,636
172	213	....	....	125	3	....	..	582	36	2,564	133	55	390	4,273	1,109
2,139	3,080	7	1	2,104	45	45	7	4,656	398	6,060	609	253	1,080	20,484	5,595
645	1,502	1	1	993	21	....	6	1,844	692	1,494	123	73	142	7,537	2,084
168	696	1	22	185	....	....	....	559	631	329	12	10	18	2,631	55
67	251	...	...	105	....	....	....	378	221	388	11	56	75	1,552	50
19	61	....	....	26	....	....	....	27	35	42	2	8	7	237	18
899	2,510	2	23	1,309	21	...	6	2,818	1,579	2,253	148	147	242	11,957	2,207
100	228	1	..	12	....	....	...	532	222	325	22	18	75	1,535	610
13	29	....	...	1	3	....	....	70	12	11	..	6	33	178	40
64	142	...	5	21	..	....	....	287	51	105	10	11	59	755	142
19	34	....	....	22	....	....	....	64	41	37	2	1	13	233	65
96	205	.	5	44	3	..	....	421	104	153	12	18	105	1,166	247
17	82	..	....	19	....	....	....	79	53	139	7	7	14	417	23
180	355	...	..	69	1	1	....	922	36	681	248	585	571	3,649	303
10	6	....	....	11	...	....	....	53	5	89	14	33	65	286	46
55	33	....	....	22	1	20	....	146	11	137	16	6	42	489	98
81	43	...	....	59	3	2	....	239	26	192	22	6	7	680	128
136	76	....	....	81	4	22	...	385	37	329	38	12	49	1,169	226
5	2	....	...	1	....	....	1	7	...	7	2	.....	.....	25	4
3,582	6,544	10	29	3,650	74	68	14	9,873	2,434	10,036	1,100	1,073	2,201	40,688	9,171

APPENDIX

RETURN showing the Number of Dominion Measures of Capacity, Balances and Weighing
Months ended

Inspection Division.	Measures of Capacity. Dominion											
	Bushel.	½ Bushel.	Peck.	Gallon.	½ Gallon.	Quart.	Pint.	½ Pint.	Gill.	½ Gill.	Total Number.	Miscellaneous.
Belleville												
Hamilton			1	1							2	2
Ottawa	1	2	3	16	12	9	1				44	1
Toronto												
Windsor												
Ontario	1	2	4	17	12	9	1				46	3
Montreal												60
Quebec			2	5	10	7	5				29	
St. Hyacinthe												
Three Rivers												
Quebec			2	5	10	7	5				29	60
St. John, N. B.												
Cape Breton				2			1				3	
Halifax												1
Pictou												
Nova Scotia				2			1				3	1
Charlottetown, P. E. I.												
Winnipeg, Man												
Calgary, Alberta												
Nelson												
Vancouver												
British Columbia												
Dawson, Yukon												
Grand totals	1	2	6	24	22	16	7				78	64

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

SESSIONAL PAPER No. 13

D—*Concluded.*

Machines of each Denomination, Rejected, in each Inspection Division, during the Nine
March 31, 1907.

BALANCES.

With Equal Arms.				Steelyards with Divided Arms.				Weigh Bridges or Platform Scales.						Total.	Miscellaneous.
5 lbs. and under.	6 lbs. to 50 lbs.	51 lbs. to 100 lbs.	101 lbs. and upwards.	500 lbs. and under.	501 lbs. to 1,000 lbs.	1,001 lbs. to 2,000 lbs.	2,001 lbs. and upwards.	250 lbs. and under.	251 lbs. to 500 lbs.	501 lbs. to 2,000 lbs.	2,001 lbs. to 4,000 lbs.	4,001 lbs. to 6,000 lbs.	6,001 lbs. and upwards.		
9	68			26				98	6	126	28	5	54	420	79
12	16	1						32	10	23	7	9	5	115	3
1	3			5				9	1	16	4		4	43	
	3							5	3	3	1	2	12	29	
22	90	1		31				144	20	168	40	16	75	607	82
	3			10				12	4	24	2	3		58	2
5	7		2	8				11	25	14	3			75	6
1	1							14	16	14		1	1	48	
6	11		2	18				37	45	52	5	4	1	181	8
								4	1	1			2	8	
								3		10		1	5	19	
								3		10		1	5	19	
				1				2		1	2	6	8	20	2
								2		1		2		5	
													2	2	1
													2	2	1
28	101	1	2	50				192	66	233	47	29	93	842	93

W. J. GERALD,
Deputy Minister.

APPENDIX E.

STATEMENT of Gas Inspection Expenditures and Revenues for Nine Months ended March 31, 1907.

Districts.	Inspectors.	Expenditures.						Revenues.
		Salaries.	Special Assistance	Rent.	Travelling Expenses	Sundries.	Totals.	
		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Barrie	Shanacy, M.	75 00	.....	.....	.....	0 85	75 85	74 25
Belleville	Johnson, Wm Stuart, W. E.	337 47	.....	131 25	27 40	1 45	497 57	189 75
Berlin	Broadfoot, S.	75 00	....	.....	24 20	11 18	110 38	254 25
Brockville	Johnston, Chs. W.	.....	.....	.....	.....	10 25	10 25	161 00
Cobourg	Bickle, J. W.	75 00	.....	.....	15 05	21 35	111 40	107 75
Cornwall	Mulhern, M. M.	75 00	.....	.....	.....	22 50	97 50	35 75
Guelph	Broadfoot, S.	150 00	.....	.....	4 00	24 79	178 79	414 25
Hamilton	McPhie, D. McPhie, W. H. Murphy, F. C. Dennis, W. A.	2,410 69	.....	90 00	236 15	74 60	2,811 44	7,307 00
Kingston	Gallagher, Thos	300 00	...	22 50	.....	43 85	366 35	463 50
Listowel	Male, Thos.	75 00	.....	58 50	....	11 90	145 40	30 00
London	Nash, A. F. Folley, L. R.	1,287 44	.....	.....	135 75	92 60	1,515 79	2,021 75
Napanee	Johnson, Wm..(acting)	.....	.....	.....	.....	72 58	72 58	49 50
Ottawa	Roche, H. G Bond, M. B.	1,312 47	405 00	300 00	.....	64 26	2,081 73	1,067 25
Owen Sound	Graham, W. J.	150 00	....	93 75	.....	.....	243 75	53 00
Peterborough	Rork, Thos	112 50	.....	.....	18 30	3 27	134 07	112 50
Sarnia	Thrasher, W. A.	.....	.....	.....	.....	2 25	2 25	144 75
Stratford	Rennie, Geo	150 00	.....	.....	.....	10 50	160 50	100 00
Toronto	Johnstone, J. K. Pape, Jas. Whyte, J. A. Hunter, W. M.	3,149 88	.....	.....	6 00	81 49	3,237 37	7,054 75
Woodstock	Orr, H. N.	21 49	.....	.....	.....	.....	21 49	19 00
	Ontario.	9,756 94	405 00	696 00	466 85	549 67	11,874 46	19,660 00
Montreal	Aubin, A. O'Flaherty, M. J. Aubin, Chs.	2,474 91	.....	180 00	36 40	119 60	2,810 91	7,827 50
Quebec	LeVasseur, N. Béland, F. X. W. E. Moreau, J. A.	1,345 78	.....	112 50	1 70	16 53	1,476 51	547 25
Sherbrooke	Simpson, A. F. Bowen, F. C.	187 47	.....	.....	.....	.....	187 47	48 00
St. Hyacinthe	Benoit, L. V.	75 00	.....	.....	.....	.....	75 00	31 50
	Quebec.	4,083 16	.....	292 50	38 10	136 13	4,549 89	8,454 25
Fredericton	Wilson, J. E.	69 05	.....	.....	50 70	0 30	126 05	36 00
St. John	Wilson, J. E	825 00	.....	.....	64 35	5 21	894 56	553 00
	New Brunswick.	894 05	.....	.....	115 05	5 51	1,014 61	589 00
Halifax, N.S.	Ritchie, A. J. Cotter, W. F. Munro, H. D.	1,199 91	.....	232 35	164 00	92 08	1,688 34	222 00
Charlottetown, P.E.I	Bell, J. H.	337 50	.....	.....	.....	.....	337 50	37 75
Winnipeg, Man.	Magness, R. Mager, J. G.	771 46	.....	.....	58 00	10 75	840 21	1,736 75
Nanaimo	McAloney, J. A.	75 00	.....	.....	.....	.....	75 00	57 00
New Westminster	Wolfenden, Wm.	75 00	.....	.....	.....	.....	75 00	75 00
Vancouver	Miller, J. E.	225 00	.....	.....	69 85	63 70	358 55	707 25
Victoria	Jones, R.	150 00	.....	.....	.....	12 50	162 50	378 00
	British Columbia.	525 00	.....	.....	69 85	76 20	671 05	1,217 25

APPENDIX E—*Concluded.*

STATEMENT of Gas Inspection Expenditures and Revenues for Nine Months ended March 31, 1907.

RECAPITULATION.

Provinces.	Expenditures.						Receipts.
	Salaries.	Special Assistance.	Rent.	Travelling Expenses.	Sundries.	Totals.	
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Ontario	9,756 94	405 00	696 00	466 85	549 67	11,874 46	19,660 00
Quebec	4,083 16		292 50	38 10	136 10	4,549 89	8,454 25
New Brunswick	894 05			115 05	5 51	1,014 61	589 60
Nova Scotia	1,199 91		232 35	164 00	92 08	1,688 34	222 00
Prince Edward Island	337 50					337 50	37 75
Manitoba	771 46			58 00	10 75	840 21	1,736 75
British Columbia	525 00			69 85	76 20	671 05	1,217 25
Chief Inspector	75 00					75 00	
General expenditures					1,105 82	1,105 82	
Printing					235 00	235 00	
Stationery					297 75	297 75	
Lithographing					150 00	150 00	
Technical translation					2 51	2 51	
Grand totals	17,643 02	405 00	1,220 85	911 85	2,661 42	22,842 14	31,917 00

W. J. GERALD,

Deputy Minister.

INLAND REVENUE DEPARTMENT,

OTTAWA, MARCH 31, 1907.

APPEN

Return of the Illuminating Power and Purity of Gas

Inspection Office.	Illuminating Power.—Standard. 16 Candles.					Sulphur per 100 Allowance—		
	Highest.	Lowest.	Average.	No. of times below standard.	No. of Tests.	Highest	Lowest.	Average
	Candles.	Candles.	Candles.			Grains.	Grains.	Grains.
Barrie—								
July			18·70	0	1			
August			17·90	0	1			
September			19·10	0	1			
October			18·20	0	1			
November			12·10	1	1			
December			18·20	0	1			
January			18·40	0	1			
February			19·10	0	1			
March			21·50	0	1			
				1	9			
Belleville—								
July	20·79	19·79	20·35	0	3			
August	20·14	19·46	19·80	0	2			
September			20·81	0	1			
October	21·23	20·24	20·73	0	2			
November	20·77	20·24	20·50	0	2			
December	21·96	21·86	21·91	0	2			
January	21·67	20·40	21·03	0	2			
February	20·24	19·90	20·07	8	2			
March	20·58	18·72	19·65	0	2			
				0	18			
Deseronto—								
July								
August			19·00	0	1			
September			19·50	0	1			
October			19·00	0	1			
November			19·50	0	1			
December			18·50	0	1			
January			20·00	0	1			
February			20·00	0	1			
March	21·00	19·00	20·00	0	2			
				0	9			

SESSIONAL PAPER No. 13

DIX F.

Inspected for nine Months ended March 31, 1907.

Cubic Feet. 35 Grains.		Ammonia per 100 Cubic Feet. Allowance—4 Grains.					Sulphuretted Hydrogen.			Remarks.
No. of times in excess of allowance.	No. of Tests.	Highest.	Lowest.	Average.	Times in excess of allowance.	No. of Tests.	No. of times absent.	No. of times present.	No. of Tests.	
		Grains.	Grains.	Grains.						
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							0	1	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							8	1	9	
							3	0	3	
							2	0	2	
							1	0	1	
							2	0	2	
							2	0	2	
							2	0	2	
							2	0	2	
							2	0	2	
							2	0	2	
							18	0	18	
										No tests made.
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							2	0	2	
							9	0	9	

APPENDIX

Return of the Illuminating Power and Purity of Gas

Inspection Office.	Illuminating Power.—Standard. 16 Candles.					Sulphur per 100 Allowance—		
	Highest.	Lowest.	Average.	No. of times below standard.	No. of Tests.	Highest	Lowest.	Average
	Candles.	Candles.	Candles.			Grains.	Grains.	Grains.
Berlin—								
July			17·30	0	1			
August			18·13	0	1			
September			17·56	0	1			
October			18·50	0	1			
November			19·80	0	1			
December			19·27	0	1			
January			19·51	0	1			
February			18·39	0	1			
March			20·09	0	1			
				0	9			
Brockville—								
July								
August	19·88	19 72	19·80	0	2			
September			20·85	0	1			
October	20·48	20·04	20·26	0	2			
November	18·60	17·68	18·14	0	2			
December	20·16	19·89	20·02	0	2			
January			20·24	0	1			
February	19·76	19·01	19·38	0	2			
March	20·22	19·94	20 08	0	2			
				0	14			
Cobourg—								
July			17·84	0	1			
August			16·18	0	1			
September			16·53	0	1			
October			17·57	0	1			
November			18·03	0	1			
December			17 58	0	1			
January			17·45	0	1			
February			16·90	0	1			
March			17·21	0	1			
				0	9			

SESSIONAL PAPER No. 13

F—*Continued.*

Inspected for nine Months ended March 31, 1907.

Cubic Feet. 35 Grains.		Ammonia per 100 Cubic Feet. Allowance—4 Grains.					Sulphuretted Hydrogen.			Remarks.
No. of times in excess of allowance.	No. of Test	Highest.	Lowest.	Average.	Times in excess of allowance.	No. of Tests.	No. of times absent.	No. of times present.	No. of Tests.	
		Grains.	Grains.	Grains.						
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							9	0	9	
										No tests made.
							2	0	2	
							1	0	1	
							2	0	2	
							2	0	2	
							2	0	2	
							1	0	1	
							2	0	2	
							2	0	2	
							14	0	14	
							2	0	2	
							2	0	2	
							2	0	2	
							2	0	2	
							2	0	2	
							2	0	2	
							2	0	2	
							2	0	2	
							18	0	18	

APPENDIX

Return of the Illuminating Power and the Purity of Gas

Inspection Office.	Illuminating Power-Standard. 16 Candles.					Sulphur per 100 Allowance—		
	Highest.	Lowest.	Average.	No. of times below Standard.	No. of Tests.	Highest	Lowest.	Average
	Candles.	Candles.	Candles.			Grains.	Grains.	Grains.
Port Hope—								
July			20·49	0	1			
August			19·34	0	1			
September			20·06	0	1			
October			19·31	0	1			
November			18·29	0	1			
December			17·37	0	1			
January			17·36	0	1			
February			18·89	0	1			
March			20·65	0	1			
				0	9			
Cornwall—								
July			18·10	0	1			
August			18·50	0	1			
September			18·05	0	1			
October			18·60	0	1			
November			18·30	0	1			
December			18·30	0	1			
January			18·05	0	1			
February			10·05	0	1			
March			18·10	0	1			
				0	9			
Guelph—								
July			18·98	0	1			
August			11·25	1	1			
September			14·99	1	1			
October			13·13	1	1			
November			13·83	1	1			
December			17·77	0	1			
January			16·38	0	1			
February			16·46	0	1			
March			16·26	0	1			
				4	9			

SESSIONAL PAPER No. 13

F—*Continued.*

Inspected for nine Months ended March 31, 1907.

Cubic Feet. 35 Grains.		Ammonia per 100 Cubic Feet. Allowance—4 Grains.					Sulphuretted Hydrogen.			Remarks.
No. of times in excess of allowance.	No. of tests.	Highest.	Lowest.	Average.	Times in excess of allowance.	No. of tests.	No. of times absent.	No. of times present.	No. of tests.	
		Grains.	Grains.	Grains.						
							2	0	2	
							2	0	2	
							2	0	2	
							2	0	2	
							2	0	2	
							2	0	2	
							2	0	2	
							2	0	2	
							2	0	2	
							18	0	18	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							9	0	9	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							9	0	9	

APPENDIX

Return of the Illuminating Power and Purity of Gas

Inspection Office.	Illuminating Power—Standard. 16 Candles.					Sulphur per 100 Allowance—		
	Highest.	Lowest.	Average.	No. of times below standard.	No. of tests.	Highest	Lowest.	Average
	Candles.	Candles.	Candles.			Grains.	Grains.	Grains.
Hamilton—								
July	18·34	17 94	18·18	0	8			
August	16·99	16·86	16·92	0	2			
September	16 99	16·86	16·92	0	2			
October	17·16	16·92	17·04	0	2			
November	17·06	16·92	16 99	0	2			
December	17·17	17·13	17·15	0	2			
January	17·31	17·07	17·19	0	2			
February	17·86	17·19	17·52	0	2			
March	17·21	17·19	17·20	0	2			
				0	24			
St. Catharines—								
July			16·38	0	1			
August			16·14	0	1			
September			16·26	0	1			
October			16·04	0	1			
November			16·16	0	1			
December			16·19	0	1			
January			16·39	0	1			
February			16·46	0	1			
March			16.19	0	1			
				0	9			
Bertie National Gas Co.—								
July								
August								
September								
October								
November								
December								
January								
February								
March								
Brantford—								
July								
August								
September								
October								
November								
December								
January								
February								
March								

SESSIONAL PAPER No. 13

F—*Continued.*

Inspected for Nine Months ended March 31, 1907—*Continued.*

Cubic Feet. 35 Grains		Ammonia per 100 Cubic Feet. Allowance—4 Grains.					Sulphuretted Hydrogen.			Remarks.
No. of times in excess of allowance.	No. of Tests.	Highest.	Lowest.	Average.	Times in excess of allowance.	No. of tests.	No. of times absent.	No. of times present.	No. of tests.	
		Grains.	Grains.	Grains.						
							2	0	2	
							2	0	2	
							2	0	2	
							3	0	3	
							2	0	2	
							2	0	2	
							2	0	2	
							2	0	2	
							2	0	2	
							25	0	25	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							9	0	9	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							7	0	7	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							9	0	9	

APPENDIX

Return of the Illuminating Power and Purity of Gas

Inspection Office.	Illuminating Power—Standard. 16 Candles.					Sulphur per 100 Allowance—		
	Highest.	Lowest.	Average.	No. of times below standard.	No. of Tests.	Highest	Lowest.	Average
	Candles.	Candles.	Candles.			Grains.	Grains.	Grains.
Dominion Natural Gas Co., Galt.—								
July								
August								
September								
October								
November								
December								
January								
February								
March								
Dominion Natural Gas Co., Dunnville, Paris, &c.—								
July								
August								
September								
October								
November								
December								
January								
February								
March								
Provincial Natural Gas and Fuel Co., of Ontario, Ltd.—								
July								
August								
September								
October								
November								
December								
January								
February								
March								
Mutual Natural Gas Co.—								
July								
August								
September								
October								
November								
December								
January								
February								
March								

SESSIONAL PAPER No. 13

F—*Continued.*

Inspected for the Nine Months ended March 31, 1907.

Cubic Feet. 35 Grains.		Ammonia per 100 Cubic Feet. Allowance—4 Grains.					Sulphuretted Hydrogen.			Remarks.
No. of times in excess of allowance.	No. of Tests.	Highest.	Lowest.	Average.	Times in excess of allowance.	No. of Tests.	No. of times absent.	No. of times present.	No. of Tests.	
		Grains.	Grains.	Grains.						
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							9	0	9	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							9	0	9	
							0	1	1	
							0	1	1	
							0	1	1	
							0	1	1	
							0	1	1	
							0	1	1	
							0	1	1	
							0	1	1	
							0	9	9	
							0	1	1	
							0	1	1	
							0	1	1	
							0	1	1	
							0	1	1	
							0	1	1	
							0	1	1	
							0	1	1	
							0	9	9	

APPENDIX

Return of the Illuminating Power and Purity of Gas

Inspection Office.	Illuminating Power—Standard. 16 Candles.					Sulphur per 100 Allowance—		
	Highest.	Lowest.	Average.	No. of times below standard.	No. of Tests.	Highest	Lowest.	Average
	Candles.	Candles.	Candles.			Grains.	Grains.	Grains.
Port Colborne-Welland Natural Gas & Oil Co.—								
July								
August								
September								
October								
November								
December								
January								
February								
March								
St. Catharines and Nigara Power & Fuel Co. Ltd.—								
July								
August								
September								
October								
November								
December								
January								
February								
March								
Ontario Pipe Line Co., Ltd.—								
July								
August								
September								
October								
November								
December								
January								
February								
March								
Kingston—								
July	18·90	18·47	18·68	0	2			
August	19·82	19·08	19·45	0	2			
September	18·80	18·71	18·75	0	2			
October	19·34	18·90	19·12	0	2			
November	19·61	19·42	19·51	0	2			
December	20·09	19·40	19·74	0	2			
January	18·33	18·00	18·16	0	2			
February	20·70	18·12	19·41	0	2			
March	19·20	18·90	19·05	0	2			
				0	18			

SESSIONAL PAPER No. 13

F—*Continued.*

Inspected for Nine Months ended March 31, 1906.

Cub'c Feet. 35 Grains.		Ammonia per 100 Cubic Feet. Allowance—4 Grains.					Sulphuretted Hydrogen.			Remarks.
No. of times in excess of allowance.	No. of Tests.	Highest.	Lowest.	Average.	Times in excess of allowance.	No. of tests.	No. of times absent.	No. of times present.	No. of Tests.	
		Grains.	Grains.	Grains.						
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							9	0	9	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							9	0	9	
							2	0	2	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							10	0	10	
							2	0	2	
							2	0	2	
							2	0	2	
							2	0	2	
							2	0	2	
							2	0	2	
							2	0	2	
							2	0	2	
							18	0	18	

APPENDIX

Return of the Illuminating Power and Purity of Gas

Inspection Office.	Illuminating Power.—Standard. 16 Candles.					Sulphur per 100 Allowance—		
	Highest.	Lowest.	Average.	No. of times below standard.	No. of Tests.	Highest	Lowest.	Average
	Candles.	Candles.	Candles.			Grains.	Grains.	Grains.
Listowel—								
July			19·62	0	1			
August			20·06	0	1			
September			20·27	0	1			
October			20·10	0	1			
November			20·02	0	1			
December			18·98	0	1			
January			19·00	0	1			
February			19·68	0	1			
March			19·88	0	1			
				0	9			
London—								
July	22·10	18·27	19·92	0	8			
August	20·15	17·92	18·85	0	8			
September	21·90	14·25	18·79	1	11			
October	20·53	17·56	18·41	0	8			
November	20·71	17·62	18·61	0	8			
December	20·63	17·07	18·40	0	10			
January	20·46	18·03	19·53	0	8			
February	23·16	17·72	19·51	0	8			
March	21·41	16·77	18·61	0	10			
				1	79			
Chatham—								
July			17·40	0	1			
August	16·28	16·17	16·22	0	2			
September			16·41	0	1			
October	14·05	13·22	13·63	2	2			
November	16·11	15·92	16·01	1	2			
December			18·10	0	1			
January			17·06	0	1			
February	15·79	14·66	15·15	3	3			
March			17·76	0	1			
				6	14			
Ingersoll—								
July			17·60	0	1			
August			19·80	0	1			
September			17·55	0	1			
October			13·65	1	1			
November			13·95	1	1			
December			20·22	0	1			
January			13·18	1	1			
February			21·28	0	1			
March			17·09	0	1			
				3	9			

SESSIONAL PAPER No. 13

F—*Continued.*

Inspected for nine months ended March 31, 1907.

Cubic Feet. 35 Grains.		Ammonia per 100 Cubic Feet. Allowance—4 Grains.					Sulphuretted Hydrogen.			Remarks.
No. of times in excess of allowance.	No. of Tests.	Highest.	Lowest.	Average.	Times in excess of allowance.	No. of Tests.	No. of times absent.	No. of times present.	No. of Tests.	
		Grains.	Grains.	Grains.						
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							9	0	9	
							8	0	8	
							8	0	8	
							11	0	11	
							8	0	8	
							8	0	8	
							10	0	10	
							8	0	8	
							6	2	8	
							10	0	10	
							77	2	79	
							1	0	1	
							2	0	2	
							1	0	1	
							2	0	2	
							2	0	2	
							1	0	1	
							1	0	1	
							3	0	3	
							1	0	1	
							14	0	14	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							9	0	9	

APPENDIX

Return of the Illuminating Power and Purity of Gas

Inspection Office.	Illuminating Power—Standard. 16 Candles.					Sulphur per 100 Allowance—		
	Highest.	Lowest.	Average.	No. of times below standard.	No. of Tests.	Highest	Lowest.	Average
	Candles.	Candles.	Candles.			Grains.	Grains.	Grains.
St. Thomas—								
July	18·91	16·93	17·92	0	2			
August			16·78	0	1			
September			17·62	0	1			
October			21·02	0	1			
November			17·00	0	1			
December			18·46	0	1			
January			18·58	0	1			
February			16·20	0	1			
March			19·66	0	1			
				0	10			
Windsor—								
July			19·50	0	1			
August			16·03	0	1			
September			16·06	0	1			
October			15·37	1	1			
November			14·73	1	1			
December			16·36	0	1			
January			15·00	1	1			
February			16·07	0	1			
March			15·23	1	1			
				4	9			
Woodstock—								
July			19·25	0	1			
August			16·74	0	1			
September			17·09	0	1			
October			17·47	0	1			
November			16·80	0	1			
December			16·60	0	1			
January			17·72	0	1			
February			16·45	0	1			
March	17·07	16·64	16·85	0	2			
				0	10			
Napanee—								
July			20·97	0	1			
August			20·23	0	1			
September								
October								
November								
December								
January								
February			20·87	0	1			
March	21·57	21·24	21·40	0	2			
				0	5			

SESSIONAL PAPER No. 13

F—*Continued.*

Inspected for nine months ended March 31, 1907—*Continued.*

Cubic Feet. 35 Grains.		Ammonia per 100 Cubic Feet. Allowance—4 Grains.					Sulphuretted Hydrogen.			Remarks.
No. of times in excess of allowance.	No. of Tests.	Highest.	Lowest.	Average.	Times in excess of allowance.	No. of Tests.	No. of times absent.	No. of times present.	No. of Tests.	
		Grains.	Grains.	Grains.						
							2	0	2	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							10	0	10	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							9	0	9	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							2	0	2	
							10	0	10	
							1	0	1	
							1	0	1	
							.....	.....	.....	Testing apparatus under repairs.
							.....	.....	.....	Testing apparatus under repairs.
							.....	.....	.....	Testing apparatus under repairs.
							.....	.....	.....	Testing apparatus under repairs.
							.....	.....	.....	Testing apparatus under repairs.
							1	0	1	
							2	0	2	
							5	0	5	

APPENDIX

Return of the Illuminating Power and Purity of Gas

Inspection Office.	Illuminating Power—Standard. 16 Candles.					Sulphur per 100 Allowance—		
	Highest.	Lowest.	Average.	No. of times below standard.	No. of Tests.	Highest	Lowest.	Average
	Candles.	Candles.	Candles.			Grains.	Grains.	Grains.
Ottawa—								
July	17·00	16·23	16·61	0	2	14·60	14·36	14·48
August	16·63	16·46	16·54	0	2	14·95	14·29	14·62
September	16·89	16·64	16·76	0	2	14·95	14·29	14·62
October	16·77	16·67	16 72	0	3	14·93	14·63	14·78
November	16·56	16·06	16·31	0	2	14·63	14·36	14·49
December	16·47	16·37	16·42	0	2	14·75	14·60	14·67
January	16 73	16·55	16·64	0	2	14·64	14·36	14·50
February	16·61	16·58	16·59	0	2	14·97	14·39	14·68
March	16·79	16·70	16·74	0	2	15·15	14·63	14·89
				0	19			
Owen Sound—								
July			16·00	0	1			
August			16·10	0	1			
September			16·00	0	1			
October			17·70	0	1			
November			17·00	0	1			
December			16·66	0	1			
January			16·60	0	1			
February			16·10	0	1			
March			16·78	0	1			
				0	9			
Peterboro—								
July	19·00	18·20	18·60	0	2			
August	21·40	20·20	20 80	0	2			
September	21·80	21 00	21·40	0	2			
October	18·40	18·20	18·30	0	2			
November	18·00	16·80	17·40	0	2			
December			19·00	0	1			
January	18·20	16 50	17·35	0	2			
February	17·20	16·20	16·70	0	2			
March	18·20	18·00	18·10	0	2			
				0	17			
Sarnia—								
July			20·28	0	1			
August			19·36	0	1			
September			19·94	0	1			
October			19·16	0	1			
November			18 64	0	1			
December			18·00	0	1			
January			18 74	0	1			
February			20 08	0	1			
March			21·66	0	1			
				0	9			

SESSIONAL PAPER No. 13

F—*Continued.*

Inspected for nine months ended March 31, 1907—*Continued.*

Cubic Feet. 35 Grains.		Ammonia per 100 Cubic Feet. Allowance—4 Grains.					Sulphuretted Hydrogen.			Remarks.
No. of times in excess of allowance.	No. of Tests.	Highest.	Lowest.	Average.	Times in excess of allowance.	No. of Tests.	No. of times absent.	No. of times present.	No. of Tests.	
		Grains.	Grains.	Grains.						
0	2	2·18	1·76	1·97	0	2	2	0	2	
0	2	2·15	2·11	2·13	0	2	2	0	2	
0	2	2·20	2·01	2·10	0	2	2	0	2	
0	2	2·21	1·33	1·77	0	2	3	0	3	
0	2	2·22	2·14	2·18	0	2	2	0	2	
0	2	2·26	2·01	2·13	0	2	2	0	2	
0	2	2·27	2·17	2·22	0	2	2	0	2	
0	2	2·27	2·18	2·22	0	2	2	0	2	
0	2	2·22	2·17	2·19	0	2	2	0	2	
0	18				0	18	19	0	19	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							9	0	9	
							2	0	2	
							2	0	2	
							2	0	2	
							2	0	2	
							2	0	2	
							1	1	2	
							2	0	2	
							2	0	2	
							2	0	2	
							17	1	18	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							9	0	9	

APPENDIX

RETURN of the Illuminating Power and Purity of Gas

INSPECTION OFFICE.	ILLUMINATING POWER—STANDARD. 16 Candles.					SULPHUR PER 100 Allowance—		
	Highest.	Lowest.	Average.	No. of times below standard.	No. of Tests.	Highest	Lowest	Average
	Candles.	Candles.	Candles.			Grains.	Grains.	Grains.
Stratford—								
July			17·46	0	1			
August			17·23	0	1			
September			17·29	0	1			
October			16·87	0	1			
November			16·57	0	1			
December			16·91	0	1			
January			16·47	0	1			
February			16·46	0	1			
March			16·78	0	1			
				0	9			
Toronto—								
July	19·32	18·28	18·87	0	8	12·92	11·44	12·18
August	19·05	18·59	18·25	0	9	15·86	14·16	15·48
September	18·88	17·84	18·59	0	9	15·32	14·05	14·68
October	19·16	17·87	18·37	0	9	14·18	12·79	13·48
November	19·16	17·65	18·41	0	8	13·93	12·53	13·23
December	19·48	18·21	18·74	0	9	14·07	12·69	13·38
January	18·81	17·93	18·46	0	9	11·15	9·71	10·43
February	19·24	16·89	18·43	0	8	12·51	11·18	11·84
March	19·20	17·59	18·20	0	9	14·22	12·66	13·44
				0	78			
Montreal—								
July	18·65	17·69	18·09	0	8	6·72	5·11	5·91
August	19·20	17·53	18·29	0	9	4·18	1·67	2·92
September	18·72	16·61	17·49	0	8	3·95	1·67	2·81
October	17·91	17·03	17·42	0	9	5·04	3·24	4·14
November	18·17	16·00	16·92	0	9	4·69	3·21	3·95
December	17·16	16·00	16·37	0	8	8·20	5·12	6·66
January	17·55	16·02	16·79	0	9	11·25	9·63	10·44
February	17·43	16·00	16·74	0	8	8·51	5·44	6·97
March	17·00	16·05	16·27	0	9	9·87	6·77	8·32
				0	77			
Quebec—								
July			18·23	0	1	19·94	17·03	18·48
August			17·87	0	1	17·10	14·91	16·00
September			18·78	0	1	20·78	18·42	19·60
October			18·25	0	1	19·60	16·50	18·05
November			18·28	0	1	22·36	19·79	21·07
December			18·39	0	1	22·83	20·52	21·67
January			18·55	0	1	22·75	20·84	21·79
February			18·48	0	1	21·91	19·30	20·60
March			18·10	0	1	17·67	16·73	17·20
				0	9			

SESSIONAL PAPER No. 13

F—*Continued.*

Inspected for nine months ended March 31, 1907—*Continued.*

Cubic Feet. 35 Grains.		Ammonia per 100 Cubic Feet. Allowance—4 Grains.					Sulphuretted Hydrogen.			Remarks.
No. of times in excess of allowance.	No. of Tests.	Highest.	Lowest.	Average.	Times in excess of allowance.	No. of Tests.	No. of times absent.	No. of times present.	No. of Tests.	
		Grains.	Grains.	Grains.						
.....	.....	.....	.....	.....	.....	.....	1	0	1	
.....	.....	.....	.....	.....	.....	.....	1	0	1	
.....	.....	.....	.....	.....	.....	.....	1	0	1	
.....	.....	.....	.....	.....	.....	.....	1	0	1	
.....	.....	.....	.....	.....	.....	.....	1	0	1	
.....	.....	.....	.....	.....	.....	.....	1	0	1	
.....	.....	.....	.....	.....	.....	.....	1	0	1	
.....	.....	.....	.....	.....	.....	.....	1	0	1	
.....	.....	.....	.....	.....	.....	.....	1	0	1	
							9	0	9	
0	2	0·47	0·15	0·31	0	2	8	0	8	
0	2	0·25	0·20	0·22	0	2	9	0	9	
0	2	0·50	0·56	0·45	0	2	9	0	9	
0	2	0·36	0·30	0·33	0	2	9	0	9	
0	2	0·35	0·25	0·30	0	2	8	0	8	
0	2	0·46	0·38	0·42	0	2	9	0	9	
0	2	0·15	0·00	0·07	0	2	9	0	9	
0	2	0·17	0·.5	0·16	0	2	8	0	8	
0	2	0·25	0·00	0·12	0	2	9	0	9	
0	18				0	18	78	0	78	
0	2	.....	.....	0·00	0	2	12	0	12	
0	2	.....	.....	0·00	0	2	13	0	13	
0	2	.....	.....	0·00	0	2	12	0	12	
0	2	.....	.....	0·00	0	2	13	0	13	
0	2	.....	.....	0·00	0	2	13	0	13	
0	2	.....	.....	0·00	0	2	12	0	12	
0	2	.....	.....	0·00	0	2	14	0	14	
0	2	.....	.....	0·00	0	2	12	0	12	
0	2	.....	.....	0·00	0	2	13	0	13	
0	18				0	18	114	0	114	
0	2	.....	.....	0·00	0	2	1	0	1	
0	2	.....	.....	0·00	0	2	1	0	1	
0	2	.....	.....	0·00	0	2	1	0	1	
0	2	.....	.....	0·00	0	2	1	0	1	
0	2	.....	.....	0·00	0	2	1	0	1	
0	2	.....	.....	0·00	0	2	1	0	1	
0	2	.....	.....	0·00	0	2	1	0	1	
0	2	.....	.....	0·00	0	2	1	0	1	
0	18				0	18	9	0	9	

APPENDIX

Return of Illuminating Power and Purity of Gas

Inspection Office.	Illuminating Power—Standard. 16 Candles.					Sulphur per 100 Allowance—		
	Highest.	Lowest.	Average.	No. of times below standard.	No. of Test's.	Highest	Lowest.	Average
	Candles.	Candles.	Candles.			Grains.	Grains.	Grains.
Sherbrooke—								
July			19·09	0	1			
August			18·92	0	1			
September			16·24	0	1			
October			20·79	0	1			
November			16·43	0	1			
December			16·76	0	1			
January			17·84	0	1			
February			19·96	0	1			
March			16·55	0	1			
				0	9			
St. Hyacinthe—								
July			18·95	0	1			
August			18·76	0	1			
September			18·81	0	1			
October			18·79	0	1			
November			18·54	0	1			
December			18·83	0	1			
January			18·87	0	1			
February			18·53	0	1			
March			18·64	0	1			
				0	9			
Fredericton—								
July			17·95	0	1			
August			17·08	0	1			
September			17·19	0	1			
October			17·08	0	1			
November			16·43	0	1			
December			16·52	0	1			
January			17·54	0	1			
February			16·56	0	1			
March			16·76	0	1			
				0	9			
St. John—								
July	17·40	16·63	16·95	0	3			22·33
August	16·86	16·80	16·83	0	2			23·46
September	16·26	16·18	16·22	0	2			24·84
October	17·87	16·98	17·30	0	4			22·57
November	17·79	17·19	17·43	0	3			20·77
December	18·12	17·62	17·87	0	2			24·16
January	17·40	16·70	17·05	0	2			24·43
February	18·05	17·17	17·52	0	3			24·37
March	16·67	17·06	17·28	0	3			24·46
				0	24			

SESSIONAL PAPER No. 13

F—*Continued.*

Inspected for nine Months ended March 31, 1907.

Cubic Feet. 35 Grains.		Ammonia per 100 Cubic Feet. Allowance—4 Grains.					Sulphuretted Hydrogen.			Remarks.
No. of times in excess of allowance.	No. of Tests.	Highest.	Lowest.	Average.	Times in excess of allowance.	No. of Tests.	No. of times absent.	No. of times present.	No. of Tests.	
		Grains.	Grains.	Grains.						
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							9	0	9	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							9	0	9	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							9	0	9	
0	1			0·00	0	1	3	0	3	
0	1			1·52	0	1	2	0	2	
0	1			0·00	0	1	2	0	2	
0	1			0·00	0	1	4	0	4	
0	1			0·00	0	1	3	0	3	
0	1			0·00	0	1	2	0	2	
0	1			0·00	0	1	2	0	2	
0	1			0·00	0	1	3	0	3	
0	1			0·00	0	1	3	0	3	
0	9				0	9	24	0	24	

APPENDIX

Return of Illuminating Power and Purity of Gas

Inspection Office.	Illuminating Power—Standard, 16 Candles.					Sulphur per 100 Allowance—		
	Highest.	Lowest.	Average.	No. of times below standard.	No. of Tests.	Highest	Lowest.	Average
	Candles.	Candles.	Candles.			Grains.	Grains.	Grains.
Moncton—								
July			19·21	0	1			
August			18·58	0	1			
September			17·74	0	1			
October			19·85	0	1			
November			19·02	0	1			
December			20·63	0	1			
January			19·45	0	1			
February			20·08	0	1			
March			18·52	0	1			
				0	9			
Halifax—								
July			17·71	0	1			25·22
August			17·56	0	1			16·73
September			17·64	0	1			19·45
October			16·84	0	1			
November			16 72	0	1			29·29
December			17·56	0	1			30·70
January			17·56	0	1			32·13
February			16·74	0	1			32·10
March			17·04	0	1			28·13
				0	9			
Yarmouth—								
July			18·15	0	1			
August								
September			16·49	0	1			
October			18·03	0	1			
November			17·79	0	1			
December			18·86	0	1			
January			17·11	0	1			
February			17·93	0	1			
March			18 07	0	1			
				0	8			
Charlottetown—								
July			18·51	0	1			
August			18·03	0	1			
September	20·16	17·69	18·92	0	2			
October			18·10	0	1			
November			16·68	0	1			
December			19·75	0	1			
January			19·46	0	1			
February	18·42	18·39	18·40	0	2			
March								
				0	10			

SESSIONAL PAPER No. 13

F—*Continued.*

Inspected for nine Months ended March 31, 1907.

Cubic Feet. 35 Grains.		Ammonia per 100 Cubic Feet. Allowance—4 Grains.					Sulphuretted Hydrogen.			Remarks.
No. of times in excess of allowance.	No. of Tests.	Highest.	Lowest.	Average.	Times in excess of allowance.	No. of Tests.	No. of times absent.	No. of times present.	No. of Tests.	
		Grains.	Grains.	Grains.						
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							9	0	9	
0	1			0·00	0	1	1	0	1	
0	1			0·00	0	1	1	0	1	
0	1			0·00	0	1	1	0	1	
							1	0	1	
0	1			0·00	0	1	1	0	1	
0	1			0·00	0	1	1	0	1	
0	1			0·00	0	1	1	0	1	
0	1			0·00	0	1	1	0	1	
0	1			0·00	0	1	1	0	1	
0	8				0	8	9	0	9	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							8	0	8	
							1	0	1	
							1	0	1	
							2	0	2	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							2	0	2	
										No test on account of frost in pipes.
							10	0	10	

APPENDIX

Return of the Illuminating Power and Purity of Gas

Inspection Office.	Illuminating Power—Standard. 16 Candles.					Sulphur per 100 Allowance -		
	Highest.	Lowest.	Average.	No. of times below standard.	No. of Times.	Highest	Lowest.	Average
	Candles.	Candles.	Candles.			Grains.	Grains.	Grains.
Winnipeg—								
July	18·22	16·64	17·43	0	2			
August	18·19	17·10	17·66	0	6			
September	18·22	16·76	17·54	0	8			
October	18·19	17·12	17·81	0	9			
November	18·90	17·12	17·95	0	8			
December	18·19	17·12	17·81	0	9			
January	17·55	16·43	16·99	0	9			
February	17·58	16·37	16·89	0	8			
March	18·00	16·84	17·31	0	7			
				0	66			
Nanaimo—								
July			19·35	0	1			
August			17·97	0	1			
September								
October								
November								
December			17·94	0	1			
January								
February			19·08	0	1			
March			18·11	0	1			
				0	5			
New Westminster—								
July			18·65	0	1			
August			19·18	0	1			
September			19·64	0	1			
October			19·81	0	1			
November			19·37	0	1			
December			18·79	0	1			
January			19·58	0	1			
February			19·29	0	1			
March			19·16	0	1			
				0	9			
Vancouver—								
July			17·70	0	1			
August			17·75	0	1			
September			17·60	0	1			
October			17·80	0	1			
November			17·60	0	1			
December			17·60	0	1			
January			17·85	0	1			
February			17·30	0	1			
March								
				0	9			

SESSIONAL PAPER No. 13

F—*Continued.*

Inspected for Nine Months ended March 31, 1907.

Cubic Feet. 35 Grains.		Ammonia per 100 Cubic Feet. Allowance—4 Grains.					Sulphuretted Hydrogen.			Remarks.
No. of times in excess of allowance.	No. of Tests.	Highest.	Lowest.	Average.	Times in excess of allowance.	No. of Tests.	No. of times absent.	No. of times present.	No. of Tests.	
		Grains.	Grains.	Grains.						
							2	0	2	
							6	0	6	
							8	0	8	
							9	0	9	
							8	0	8	
							9	0	9	
							9	0	9	
							8	0	8	
							7	0	7	
							66	0	66	
							1	0	1	
							1	0	1	
							0	1	1	
							1	0	1	
							1	0	1	
							4	1	5	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							9	0	9	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							1	0	1	
							9	0	9	

APPENDIX

Return of the Illuminating Power and Purity of Gas

Inspection Office.	Illuminating Power.—Standard. 16 Candles.					Sulphur per 100 Allowance—		
	Highest.	Lowest.	Average.	No. of times below Standard.	No. of Tests.	Highest	Lowest.	Average
	Candles.	Candles.	Candles.			Grains.	Grains.	Grains.
Victoria—								
July								
August			17·13	0	1			
September								
October			17·90	0	1			
November			16·80	0	1			
December								
January								
February								
March								
				0	3			

Inland Revenue Department,

Ottawa, May 31, 1907.

SESSIONAL PAPER No. 13

F—*Concluded.*

Inspected for nine months ended March 31, 1907.

Cubic Feet. 35 Grains.		Ammonia per 100 Cubic Feet. Allowance—4 Grains.					Sulphuretted Hydrogen.			Remarks.
No. of times in excess of allowance.	No. of Tests.	Highest.	Lowest.	Average.	Times in excess of allowance.	No. of Tests.	No. of times absent.	No. of times present.	No. of Tests.	
		Grains.	Grains.	Grains.						
							1	0	1	
							1	0	1	
							1	0	1	
							3	0	3	

W. J. GERALD,

Deputy Minister.

APPENDIX G.

STATEMENT of Gas Meters presented for Verification, Verified after first Rejection and Rejected, for nine months ended March 31, 1907.

	Presented for Verification.	Kind.		Verified as coming within the error tolerated by law.			Verified after first Rejection.			Rejected.			Totals Verified and Rejected.	
		Wet.	Dry.	Correct.	Fast.	Slow.	Correct.	Fast.	Slow.	Unsound.	Fast.	Slow.	Verified.	Rejected.
Barrie	47		47	3	18	25				1			47	
Belleville	155		155	69	39	47							155	
Berlin	196		196	53	82	57			3		1		192	4
Brockville	85		85	13	32	40							85	
Cobourg	54		54	2	22	30							54	
Cornwall	9		9	6	1	2							9	
Guelph	347		347		94	253							347	
Hamilton	5,567		5,567	1,535	919	3,111		2					5,565	2
Kingston	400		400	62	50	287						1	399	1
Listowel	3		3	1		2							3	
London	1,189		1,189	243	295	630				2	9	10	1,168	21
Napanee	31		31	9	4	18							31	
Ottawa	915		915	158	233	523					1		914	1
Owen Sound	20		20	19		1							20	
Peterborough	77		77	22	8	43				1	2	1	73	4
Sarnia	69		69	30	12	27							69	
Stratford	85		85	19	23	40				3			82	3
Toronto	7,503		7,503	954	2,629	3,895				6	16	3	7,478	25
Woodstock	10		10		2	8							10	
Montreal	9,020		9,020	1,461	4,771	2,718				21	27	22	8,950	70
Quebec	434		434	146	111	175					1	1	432	2
Sherbrooke	16		16	2	8	6							16	
St. Hyacinthe	6		6	4		2							6	
Fredericton	7		7	2		5							7	
St. John	402		402	183	19	199						1	401	1
Halifax	70		70	48	16	6							70	
Charlottetown	11		11	2	3	5					1		10	1
Winnipeg	1,388		1,388	577	55	756							1,388	
Nanaimo														
New Westminster	33		33	3	11	19							33	
Vancouver	672		672	219	188	265							672	
Victoria	333		333	73	136	124							333	
Grand totals	29,154		29,154	5,918	9,781	13,319		2	3	34	58	39	29,019	135

W. J. GERALD,

INLAND REVENUE DEPARTMENT,

OTTAWA, May 31, 1907. *Deputy Minister.*

SESSIONAL PAPER No. 13

APPENDIX H.

STATEMENT of Electric Light Inspection Expenditures and Revenues for nine months ended March 31, 1907.

Districts.	Inspectors.	Expenditures.					Revenues.	
		Salaries.	Special Assistance.	Travelling Expenses.	Sundries.	Total.	Registration Fees.	Inspection Fees.
		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Belleville	Johnson, Wm.	90 84		261 45	64 07	416 36	438 75	706 75
	Johnson, Chs. W.							
Hamilton	McPhie, D.				47 65	47 65	217 50	1,604 75
London	Nash, A. F.		80 00	242 15	5 20	327 35	469 38	1,184 00
Ottawa	Roche, H. G.			154 95		154 95	350 00	1,266 25
Toronto	Johnstone, J.K.			348 70	26 92	375 62	713 75	4,323 25
	Ontario	90 84	80 00	1,007 25	143 84	1,321 93	2,189 38	9,085 00
Montreal	Aubin, A.			26 85	45 65	72 50	161 25	4,396 75
Quebec	Le Vasseur, N.			20 65	75 68	96 33	168 75	330 25
Sherbrooke	Simpson, A.F.			30 55	19 25	49 80	173 75	154 50
St. Hyacinthe	Provost, J. E.	225 00		89 15	2 20	316 35	108 75	138 75
Three Rivers	Dufresne, J. U.	375 00		39 00		414 00	50 00	141 50
	Quebec	600 00		206 20	142 78	948 98	662 50	5,161 75
St. John, N.B.	Wilson, J. E.			171 91	4 78	176 69	183 75	923 50
Halifax, N.S.	Ritchie, A. J.			94 80	5 30	100 10	333 75	750 75
Charlottetown, P.E.I.	Bell, J. H.			16 85	27 99	44 84	30 00	37 25
Winnipeg, Man	Magness, R.			42 60	12 50	55 10	356 25	3,160 75
Calgary, Alta.	Harbottle, N.	101 16		5 95		107 11		171 80
	Higman, O. jr.							
Vancouver	Miller, J. E.						187 50	2,150 75
Victoria	Jones, R.			34 50	4 15	38 65	48 75	491 50
	British Columbia			34 50	4 15	38 65	236 25	2,642 25
Yukon	Macdonald, J. F.	374 94				374 94	26 25	
	Chief Elec. Eng'r.	2,128 70	346 21	87 61	252 63	2,815 15		
	Gen. Contingencies				1,620 36	1,620 36		
	Printing				301 93	301 93		
	Stationery				44 92	44 92		
	Tech. Translation				1 00	1 00		
	Totals	3,295 64	426 21	1,667 67	2,562 18	7,951 70	*4,018 13	†21,933 05

*Less refund of $16 88 as per statement No. 16
† " $11.60 " "

INLAND REVENUE DEPARTMENT,
OTTAWA, May 31, 1907.

W. J. GERALD,
Deputy Minister.

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APPENDIX I.

STATEMENT showing the number of Electric Light Meters Verified, Rejected and Verified after first Rejection, in each Inspection District for nine months ended March 31, 1907.

Districts.	Number presented.	Verified as coming within the error tolerated by law.			Rejected.			Verified after first Rejection.		
		Correct.	Fast.	Slow.	Unsound.	Fast.	Slow.	Correct.	Fast.	Slow.
Belleville	643	267	223	153						
Hamilton	1,262	383	386	490		1	2			
London	1,064	740	120	198		1	5			
Ottawa	1,632	309	389	930	4					
Toronto	3,739	1,055	1,721	921		13	29			
Montreal	3,289	2,402	821	59	1	4	2			
Quebec	351	170	81	99			1			
Sherbrooke	133	94	11	24		1	3			
St. Hyacinthe	151	48	74	29						
Three Rivers	98	58	22	18						
St. John	591	295	114	178		3	1			
Halifax	679	620	47	10		2				
Charlottetown	47	22	20	5						
Winnipeg	2,795	2,742	57	96						
Calgary	210	33	3	174						
Vancouver	2,057	218	1,176	663						
Victoria	620	275	161	184						
Totals	19,461	9,731	5,426	4.231	5	25	43			

W. J. GERALD,

Deputy Minister.

INLAND REVENUE DEPARTMENT,

OTTAWA, May 31, 1907.

APPENDIX J.

STATEMENT showing the Electric Light Companies registered under the Electric Light Inspection Act, for nine months ended March 31, 1907.

Districts.	From whom Collected.	Serial No.	By whom Collected.	Certificate for Fiscal Year.	Number of Lamps.			Registration Fees.	Totals.
					Arc.	Incandescent.	Totals.		
								$ cts.	$ cts.
Belleville	Marmora Electric Light Co., Ltd	1	C.I.R., Belleville	1906-1907	.....	575	575	7 50	
	The Frankford Electric Light Co., Ltd	2	" "	"	.....	400	400	3 75	
	The Corporation of Picton	3	" "	"	40	5,500	5,900	18 75	
	Tweed Electric Light and Power Co	4	" "	"	5	1,100	1,150	7 50	
	The Trenton Electric and Water Co., Ltd., Trenton and Belleville	5	" "	"	65	9,749	10,399	18 75	
	The Corporation of Madoc	6	" "	"	12	1,000	1,120	7 50	
	W. P. Niles, Wellington	7	" "	"	5	200	250	3 75	
	Fair & Sargent, Bancroft	8	" "	"	.....	600	600	7 50	
	The Vankleek Hill Electric Light Co	1	C.I.R., Cornwall	"	.....	1,429	1,429	7 50	
	St. Lawrence Power Co., Mille Roches	2	" "	"	230	769	1,999	18 75	
	The Hawkesbury Electric Light and Power Co., Ltd	3	" "	"	.....	1,893	1,893	7 50	
	Corporation of Alexandria	4	" "	"	3	1,400	1,430	7 50	
	Stormont Electric Light and Power Co., Cornwall	5	" "	"	14	1,700	1,840	7 50	
	Corporation of the City of Kingston	1	C.I.R., Kingston	"	136	8,000	9,360	18 75	
	School of Mining, Kingston	2	" "	"	8	30	110	3 75	
	The Benjamin Manufacturing Co., Ltd., of the Village of Yarker	3	" "	"	.....	200	200	3 75	
	A. A. Connoly, Yarker	4	" "	"	.....	140	140	3 75	
	The Corporation of Napanee	5	" "	"	25	1,000	1,250	7 50	
	Light, Heat and Power Co., Lindsay	1	C.I.R., Peterborough	"	95	7,000	7,950	18 75	
	Peterborough Light and Power Co., Ltd	2	" "	"	200	15,000	17,000	18 75	
	The Corporation of the Town of Campbellford	3	" "	"	37	2,564	2,934	18 75	
	Port Hope Electric Light and Power Co	4	" "	"	36	2,500	2,860	18 75	
	Cobourg Water and Electric Co., Ltd	5	" "	"	26	6,000	6,260	18 75	
	Colborne Electric Light Co	6	" "	"	20	800	1,000	7 50	
	The Brighton Electric Light Co	7	" "	"	.....	600	600	7 50	
	W. C. Harrison, Norwood	8	" "	"	13	490	620	7 50	
	The Havelock Electric Light and Power Co., Ltd	9	" "	"	13	668	798	7 50	
	Otonabee Power Co., Ltd., Peterborough	10	"	"	20	10,000	10,200	18 75	
	The Board of Water, Light and Power Commission, Fenelon Falls	11		"	13	1,701	1,831	7 50	

APPENDIX J—*Continued.*

STATEMENT showing the Electric Light Companies registered under the Electric Light Inspection Act, for nine months ended March 31, 1907—*Continued.*

Districts.	From whom Collected.	Serial No.	By whom Collected.	Certificate for Fiscal Year.	Number of Lamps.			Registration Fees.	Totals.
					Arc.	Incandescent.	Totals.		
								$ cts.	$ cts.
Belleville	Foulds & Co., Ltd., Hastings	12	C. I. R., Peterborough	1906-1907.	12	600	720	7 50	
	Bowmanville Electric Light Co., Ltd	13	" "	"	17	1,700	1,870	7 50	
	J. E. Kelly, Lakefield	14	" "	"	8	800	880	7 50	
	J. G. Delong, Millbrook	15	" "	"	5	450	500	3 75	
	D. J. Galbraith, Newcastle	16	" "	"	....	400	400	3 75	
	Water and Light Commissioners of the Town of Prescott	1	C. I. R., Prescott	"	10	3,800	3,900	18 75	
	The Brockville Light and Power Department	2	" "	"	97	4,500	5,470	18 75	
	Morrisburg Light and Power Co	3	" "	"	.....	3,000	3,000	18 75	
	Gananoque Electric Light and Water Supply Co., Ltd	4	" "	"	25	1,500	1,750	7 50	
	The Cardinal Electric Light Co., Ltd	5	" "	"	.....	1,400	1,400	7 50	
	Merrickville Electric Light and Power Co	6	" "	"	1	475	485	3 75	
	Westport Electric Light and Milling Co	7	" "	"	.....	500	500	3 75	
	Kemptville Milling and Light Co., Ltd	8	" "	"	...	1,000	1,000	7 50	
	Municipality of the Village of Iroquois	9	" "	"	12	1,496	1,616	7 50	
	Frank Elliott, Winchester	10	" "	"	.....	500	500	3 75	
									438 75
Hamilton	Herbert Webster, Norwich	1	C. I. R., Brantford	"	.....	1,417	1,417	7 50	
	Keilig & Fisher, Port Dover	2	" "	"	.....	400	400	3 75	
	James Munro, Embro	3	" "	"	.....	437	437	3 75	
	Corporation of the Town of Paris	4	" "	"	33	1,200	1,530	7 50	
	The Tilsonburg Electric Light Works	5	" "	"	5	1,900	1,950	7 50	
	The Brantford Electric and Operating Co., Ltd	6	" "	"	400	18,000	22,000	18 75	
	The Simcoe Gas & Water Co., Ltd	7	" "	"	32	.....	320	3 75	
	Woodstock Water & Light System	8	" "	"	160	6,000	7,600	18 75	
	Ingersoll Electric Power & Light Co., Ltd	9	" "	"	60	2,562	3,162	18 75	
	Brantford Street Railway Co	10	" "	"	....	300	300	3 75	
	The Hamilton Electric Light & Power Co	1	C. I. R., Hamilton	"	1,000	72,000	82,000	18 75	
	The Hamilton Cataract Power, Light & Traction Co., Ltd	2	" "	"	....	260	260	3 75	
	The Electric Power & Manufacturing Co., Hamilton	3	" "	"	....	200	200	3 75	
	The Dundas Electric Co	4	" "	"	6	1,400	1,460	7 50	
	The Hamilton Cataract Power, Light & Traction Co., Ltd., Beamsville	1	C. I. R., St. Catharines	"	.....	459	459	3 75	

	Grimsby Electric Plant	2	"	"	"			455	455	3 75	
	The Lincoln Electric Light & Power Co., Ltd., St. Catharines	3	"	"	"		131	10,000	11,310	18 75	
	Corporation of the Town of Niagara	4	"	"	"			750	750	7 50	
	The Maple Leaf Rubber Co., Ltd., Port Dalhousie	5	"	"	"		18	968	1,148	7 50	
	Corporation of the Town of Niagara Falls	6	"	"	"		69	6,000	6,690	18 75	
	Welland Electric Light & Power Co	7	"	"	"		18	800	980	7 50	
	The Dunnville Electric Light Co., Ltd	8	"	"	"		12	1,476	1,596	7 50	
	Corporation Town of Thorold	9	"	"	"		28	1,700	1,980	7 50	
	Merritton Electric Light Plant	10	"	"	"		25	1,500	1,750	7 50	
											217 50
London	R. C. McLeay, Watford	1	C. I. R., London		"		15	300	150	3 75	
	Hamilton & Prout, Forest	2	"	"	"		12	350	470	3 75	
	Alvinston Power Co., Ltd	3	"	"	"		13	370	500	3 75	
	City Light, Heat & Power Department, St. Thomas	4	"	"	"		96	3,000	3,960	18 75	
	The Petrolia Electric Light, Heat & Power Co., Ltd	5	"	"	"		39	3,142	3,532	18 75	
	The Corporation of the Town of Strathroy	6	"	"	"		18	3,400	3,580	18 75	
	The Town of Aylmer	7	"	"	"		10	1,500	1,600	7 50	
	West Lorne Electric Light Co., Ltd	8	"	"	"		6	369	429	3 75	
	The London Electric Co., Ltd	9	"	"	"		373	37,619	41,349	18 75	
	Sarnia Gas & Electric Light Co., Ltd	10	"	"	"		103	4,000	5,030	18 75	
	B. A. Gordon, Glencoe	11	"	"	"	1905–1906	24	425	665	10 00	
	B. A. Gordon, Glencoe	12	"	"	"	1906–1907	24	425	665	7 50	
	The Dutton Electric Light Co	13	"	"	"		4	743	783	7 50	
	H. C. Baird & Son, Park Hill	14	"	"	"		12	1,250	1,370	7 50	
	H. Cook & Sons, Lucan	15	"	"	"			800	800	7 50	
	Walter Mitchell, Port Stanley	16	"	"	"			350	350	3 75	
	The Corporation of the Town of Wingham	1	C. I. R., Stratford		"		45	4,500	4,950	18 75	
	James & Robert Thuell, Brussels	2	"	"	"		9	400	490	3 75	
	The Corporation of the Town of Goderich	3	"	"	"		43	3,000	3,450	18 75	
	John Patterson, Wroxeter	4	"	"	"			350	350	3 75	
	J. G. Field, Tavistock	5	"	"	"			600	600	7 50	
	J. A. Williams & Co., Zurich	6	"	"	"			320	320	3 75	
	The Seaforth Light, Heat & Power Co., Ltd	7	"	"	"		34	1,800	2,180	18 75	
	The Corporation of the Town of St. Mary's	8	"	"	"		40	3,500	3,900	18 75	
	Corporation of the Town of Mitchell	9	"	"	"		27	1,500	1,770	7 50	
	The Stratford Gas Co	10	"	"	"		20	4,000	4,200	18 75	
	C. B. Snell, Exeter	11	"	"	"		15	1,000	1,150	7 50	
	The Corporation of the Town of Palmerston	12	"	"	"		20	750	950	7 50	
	The Listowel Gas & Electric Light Co., Ltd	13	"	"	"		25		250	3 75	
	Blyth Electric Light Co	14	"	"	"		7	400	470	3 75	
	Clinton Electric Light Co	15	"	"	"		28	1,200	1,480	7 50	
	Thomas Welsh, Hensall	16	"	"	"			900	900	7 50	
	Hiram Walker & Sons, Ltd., Walkerville	1	C. I. R., Windsor		"		22	4,200	4,420	18 75	
	Sandwich, Windsor & Amherstburg Railway, Windsor	2	"	"	"		9	11,000	11,090	18 75	
	Kingsville Electric Light Co	3	"	"	"			1,100	1,400	7 50	
	The Corporation of the Town of Dresden	1	"	"	"		6	1,100	1,160	7 50	
	The Corporation of Thamesville	5	"	"	"			900	900	7 50	
	The Leamington Light and Heat Co., Ltd	6	"	"	"		17	1,600	1,770	7 50	
	Corporation of the Town of Bothwell	7	"	"	"		15	350	500	3 75	
	D. W. Kitt, Tilbury	8	"	"	"		13	1,200	1,330	7 50	

APPENDIX J—*Continued.*

STATEMENT showing the Electric Light Companies registered under the Electric Light Inspection Act, for nine months ended March 31, 1907—*Continued.*

Districts.	From whom Collected.	Serial No.	By whom Collected.	Certificate for Fiscal Year.	Number of Lamps.			Registration Fees.	Totals.
					Arc.	Incandescent.	Totals.		
								$ cts.	$ cts.
London	W. H. McMackon, Ridgetown	9	C. I. R., Windsor	1906-1907	15	1,600	1,750	7 50	
	Chatham Gas Co., Ltd	10	" "	"	20	10,000	10,200	18 75	
	Amherstburg Electric Light, Heat and Power Co., Ltd	11	" "	"	....	1,500	1,500	7 50	
	Chas. E. Naylor, Essex	12	" "	"	9	1,000	1,090	7 50	
	The Corporation of the Town of Blenheim	13	" "	"	17	1,400	1,570	7 50	
	The Premier Electric Light and Power Co., Ltd., Wallaceburg	14	" "	"	30	1,250	1,550	7 50	
	Jas. A. Secord, Harrow	15	" "	"	....	430	430	3 75	
	Wigle Bros., Windsor	16	" "	"	..	300	300	3 75	
	The Municipal Corporation of the City of Windsor	17	" "	"	189	.....	1,890	9 38	
									469 38
Ottawa	Albert MacLaren, Buckingham	1	C. I. R., Ottawa	"	40	2,800	3,200	18 75	
	The Deschenes Electric Co., Ltd., Ottawa	2	" "	"	8	2,593	2,673	18 75	
	The Ottawa Electric Co., Ottawa and Hull	3	" "	"	1,235	148,775	161,125	18 75	
	The Capital Power Co., Ltd., Hull and Deschenes	4	" "	"	.....	200	200	3 75	
	The Hull Electric Co.	5	" "	"	50	8,830	9,330	18 75	
	Corporation of the City of Ottawa	6	" "	"	177	35,400	37,170	18 75	
	Corporation of the Town of Sudbury	1	C. I. R., Perth	"	33	2,500	2,830	18 75	
	The Dowd Milling Co., Ltd., Pakenham	2	" "	"	.....	430	430	3 75	
	Mattawa Electric Light and Power Co., Ltd	3	" "	"	13	860	990	7 50	
	Smith Falls Electric Power Co., Ltd	4	" "	"	60	4,500	5,100	18 75	
	The Canadian Copper Co., Copper Cliff	5	" "	"	19	2,200	2,390	18 75	
	The Corporation of the Town of Perth	6	" "	"	45	.....	450	3 75	
	The Star Electric Co., Eganville	7	" "	"	.....	1,000	1,000	7 50	
	Arnprior Electric Light and Power Co., Ltd	8	" "	"	....	3,600	3,600	18 75	
	Pembroke Electric Light Co., Ltd	9	" "	"	13	4,200	4,330	18 75	
	The Renfrew Power Co., Ltd	10	" "	"	52	3,000	3,520	18 75	
	North Bay Light, Heat and Power Co., Ltd	11	" "	"	24	3,500	3,740	18 75	
	Corporation of the Town of Almonte	12	" "	"	17	1,935	2,105	7 50	
	Carleton Place Electric Light Co	13	" "	"	12	2,500	2,620	18 75	
	Renfrew Electric Co., Ltd	14	" "	"	.....	1,500	1,500	7 50	
	Citizens' Electric Co., Ltd., Smith Falls	15	" "	1905-1906	.....	1,500	1,500	10 00	

	" "	16	" "	1906–1907		1,500	1,500	7 50		
	The Canadian Electric and Water Power Co., Ltd., Perth	17	" "	"		3,000	3,000	18 75		
	Star Electric Co., Eganville	18	" "	1905–1906		1,000	1,000	10 00		
	Sturgeon Falls Electric Light and Power Co., Ltd	19	" "	1906–1907	5	2,700	2,750	18 75		
									350 00	
Toronto	Galt Gas Light Co	1	C. I. R., Guelph	"	56	5,700	6,260	18 75		
	Berlin Light Commissioners	2	" "	"	120	6,000	7,200	18 75		
	George Leighton, Harriston	3	" "	"	18	600	780	7 50		
	Drayton Electric Light Co	4	" "	"		360	360	3 75		
	Waterloo Electric Light and Power Co	5	" "	"	27	3,750	4,020	18 75		
	Ratz Bros., Elmira	6	" "	"		600	600	7 50		
	E. W. B. Snider, St. Jacobs	7	" "	"		240	240	3 75		
	Mount Forest Water and Electric Light Commissioners	8	" "	"	15	1,200	1,350	7 50		
	The Preston Heat and Light Commission	9	" "	"	26	3,000	3,264	18 75		
	The Corporation of the Town of Hespeler	10	" "	"		1,500	1,500	7 50		
	City of Guelph Light and Power Department	11	" "	"	107	8,285	9,355	18 75		
	Fergus Electric Light Co	12	" "	"	27	1,250	1,520	7 50		
	Robert Wells, Drayton	13	" "	1905–1906		360	360	5 00		
	Jacob Morley, New Hamburg	14	" "	1906–1907	20	1,100	1,300	7 50		
	Thomas Andrews, Thornbury	1	C. I. R., Owen Sound	1906–1907	12	600	720	7 50		
	H. Cargill & Son, Cargill	2	" "	"		600	600	7 50		
	Chesley Electric Light Co	3	" "	"	25	1,050	1,300	7 50		
	Crawford & McIntyre, Durham	4	" "	"	4	1,500	1,540	7 50		
	Corporation of the Town of Kincardine	5	" "	"	19	1,690	1,880	7 50		
	H. Gruetzner, Hanover	6	" "	"	19	1,638	1,828	7 50		
	Canada Furniture Manufacturers, Ltd., Wiarton	7	" "	"	18	1,384	1,564	7 50		
	Minnis Bros., Markdale	8	" "	"		900	900	7 50		
	The Walkerton Electric Light and Power Co., Ltd	9	" "	"	18	1,747	1,927	3 75		
	Walter Stewart & Son, Lucknow	10	" "	"	1	425	435	7 50		
	The Saugeen Electric Light & Power Co., Ltd., Port Elgin and Southampton	11	" "	"		2,531	2,531	18 75		
	Corporation of Town of Collingwood	12	" "	"	60	3,000	3,600	18 75		
	Paisley Electric Light Co	13	" "	"		900	900	7 50		
	Corporation of the Town of Dundalk	14	" "	"		490	490	3 75		
	Georgian Bay Power Co., Ltd., Engenia	15	" "	"		400	400	3 75		
	Corporation of the Town of Owen Sound	16	" "	"	61	10,993	11,603	18 75		
	Georgian Bay Milling and Power Co., Ltd., Meaford	17	" "	"	25	1,650	1,900	7 50		
	Wenger Milling Co., Ayton	18	" "	"		153	153	3 75		
	The Teeswater Electric Light Co	19	" "	"		325	325	3 75		
	Mildmay Electric Light Co	20	" "	"		300	300	3 75		
	N. & A. McArthur Co., Ltd., Little Current	1	C. I. R., Toronto	"	10	700	800	7 50		
	Corporation of the Town of Orillia	2	" "	"	51	7,513	8,023	18 75		
	W. & M. Summerfeldt & Sons, Sutton	3	" "	"		400	400	3 75		
	Corporation of the Town of Barrie	4	" "	"	52	6,000	6,520	18 75		
	Corporation of Gravenhurst	5	" "	"		1,965	1,965	7 50		
	Monarch Supply Co., Ltd., Toronto	6	" "	"		380	380	3 75		
	Toronto Electric Light Co., Ltd	7	" "	"	1,600	150,000	166,000	18 75		
	I. J. Gould, Uxbridge	8	" "	"	12	1,100	1,220	7 50		
	Knight Bros., Co., Ltd., Burk's Falls	9	" "	"	1	1,500	1,510	7 50		

APPENDIX J—*Continued.*

STATEMENT showing the Electric Light Companies registered under the Electric Light Inspection Act, for nine months ended March 31, 1907—*Continued.*

Districts.	From whom Collected.	Serial No.	By whom Collected.	Certificate for Fiscal Year.	Number of Lamps.			Registration Fees.	Totals.
					Arc.	Incandescent.	Totals.		
								$ cts.	$ cts.
Toronto	Alex. Dobson, Beaverton	10	C.I.R., Toronto.	1906-1907.		450	450	3 75	
	Corporation of the Town of Newmarket	11	" "	"		3,000	3,000	18 75	
	The Sunderland Electric Power Co., Ltd.	12	" "	"		382	382	3 75	
	The Corporation of the Town of Parry Sound	13	" "	"	13	3,500	3,630	18 75	
	Corporation of the Village of Beeton	14	" "	"		635	635	7 50	
	Municipality of the Town of Weston	15	" "	"	19	700	890	7 50	
	The Corporation of the Village of Acton	16	" "	"		1,250	1,250	7 50	
	Corporation of the Town of East Toronto	17	" "	"	32	500	820	7 50	
	Corporation of the Town of Whitby	18	" "	"	28	1,680	1,960	7 50	
	James Byer, Stouffville	19	" "	"		480	480	3 75	
	Tagona Water and Light Co., Sault Ste. Marie	20	" "	"	221	11,221	13,431	38 75	
	The Penetanguishene and Midland Electric Street Railway, Light and Power Co., Ltd.	21	" "	"	16	1,200	1,360	7 50	
	John Philip, Grand Valley	22	" "	"		1,400	1,400	7 50	
	The Stark Telephone, Light and Power System Ltd., Toronto Junction	23	" "	"	152	8,400	9,920	18 75	
	The Aurora Electric Light Co	24	" "	"	2	450	470	3 75	
	Corporation of the Town of Bracebridge	25	" "	"		4,000	4,000	18 75	
	Corporation of the Town of Midland	26	" "	"	20	4,500	4,700	18 75	
	S. Plewes, Creemore	27	" "	"		500	500	3 75	
	The Corporation of the Town of Huntsville	28	" "	"		2,000	2,000	7 50	
	Corporation of the Village of Markham	29	" "	"		475	475	3 75	
	Jos. Knox, Stayner	30	" "	"		800	800	7 50	
	Georgetown Electric Light and Power Co., Ltd.	31	" "	"	14	1,600	1,740	7 50	
	Jas. Pickering, Shelburne	32	" "	"	17	800	970	7 50	
	The Alliston Electric Light Co.	33	" "	"		1,400	1,400	7 50	
	Oshawa Electric Light Co., Ltd	34	" "	"	14	1,800	1,940	7 50	
	Corporation Village of Totterham	35	" "	"		570	570	7 50	
	Corporation Village of Port Perry	36	" "	"	3	842	872	7 50	
	Corporation Town of Thessalon	37	" "	"	15	800	950	7 50	
	Hamilton Cataract Power and Light Co., Burlington	38	" "	"		650	650	7 50	
	Cataract Electric Co., Ltd.	39	" "	"	27	450	720	7 50	

	Blind River Light, Heat and Power Co., Ltd.	40	"	"	"		1,500	1,500	7 50		
	The Cannington Electric Light Co.	41	"	"	"	11	385	495	3 75		
	C. E. Copeland, Elmvale	42	"	"	"		475	475	3 75		
	Brampton Electric Light Co	43	"	"	"	28	1,627	1,907	7 50		
	Corporation of the Town of Milton	44	"	"	"	20	800	1,000	7 50		
	C. W. Watson, Orangeville	45	"	"	"		1,500	1,500	7 50		
										713	75
Montreal	La Compagnie d'Eclairage Electrique de Terrebonne	1	C. I. R., Montreal		"		925	925	7 50		
	The Corporation of the Village of Huntingdon	2	"	"	"		900	900	7 50		
	The Valleyfield Electric Co., Ltd	3	"	"	"		3,100	3,100	18 75		
	The Montreal Light, Heat and Power Co., Ltd.	4	"	"	"	3,500	326,137	361,137	18 75		
	Gazette Printing Co., Montreal	5	"	"	"		802	802	7 50		
	The Corporation of the Town of Lachine	6	"	"	"	55	1,800	2,350	18 75		
	Laurentian Water & Power Co., Ltd., Ste. Agathe des Monts	7	"	"	"	4	1,500	1,540	7 50		
	The Saragnay Electric Light & Power Co., St. Laurent and Bordeaux	8	"	"	"		800	800	7 50		
	Central Heat, Light & Power Co., Montreal	9	"	"	"	42	4,000	4,420	18 75		
	St. Jerome Power & Electric Light Co., Ltd.	10	"	"	"	2	1,000	1,020	7 50		
	The Corporation of the Town of Westmount	11	"	"	"	2	4,500	4,520	18 75		
	Jean Roux, St. Thérèse de Blainville	12	"	"	"		400	400	3 75		
	J. T. Ayers, Lachute	13	"	"	"		1,050	1,050	7 50		
	Beauharnois Electric Light Co.	14	"	"	"		1,000	1,000	7 50		
	Joseph Cyr, St. Canute	15	"	"	"		406	406	3 75		
										161	25
Quebec	The Quebec Jacques Cartier Electric Co.	1	C. I. R., Quebec		"	641	56,580	62,990	18 75		
	M. A. and Henri Grandbois, St. Casimir	2	"	"	"		400	400	3 75		
	Montmagny Light & Pulp Co.	3	"	"	"		2,000	2,000	7 50		
	La Compagnie d'Electricité de Roberval	4	"	"	"	1	1,800	1,810	7 50		
	Quebec Railway Light & Power Co.	5	"	"	"	203	62,257	64,287	18 75		
	The Canadian Electric Light Co., Levis	6	"	"	"	20	10,000	10,200	18 75		
	Corporation of the Town of Fraserville	7	"	"	"		3,000	3,000	18 75		
	La Compagnie Electrique du Bic	8	"	"	"		300	300	3 75		
	La Compagnie Electrique de la Baie St. Paul	9	"	"	"		550	550	7 50		
	Chs. A. Julien, Pont Rouge	10	"	"	"		300	300	3 75		
	Chs. A. Julien, St. Raymond	11	"	"	"		700	700	7 50		
	La Compagnie des Eaux et de l'Electricité de Chicoutimi	12	"	"	"		4,000	4,000	18 75		
	La Compagnie Hydraulique & Electric de Lorette	13	"	"	"	1	906	916	7 50		
	La Compagnie Electrique de St. Georges de Beauce, St. Georges and Beauceville	14	"	"	"		800	800	7 50		
	The Labrador Electric & Pulp Co., Ltd.	15	"	"	"		2,000	2,000	18 75		
										168	75
Sherbrooke	The Corporation of the Town of Magog	1	C. I. R., Sherbrooke		"		2,600	2,600	18 75		
	Richmond County Electric Co.	2	"	"	"		2,146	2,146	18 75		
	R. H. and G. H. Gibson, Danville	3	"	"	"		800	800	7 50		
	La Compagnie d'Eclairage Electrique du Village de Mégantic	4	"	"	"		1,200	1,200	7 50		
	George Matthews, Sawyerville	5	"	"	"	1	200	210	3 75		
	Eastern Townships Electric Co., North Hatley	6	"	"	"		1,600	1,600	7 50		
	Parker & Howe, Dixville	7	"	"	"		125	125	3 75		
	The Brome Lake Electric Power Co., Waterloo	8	"	"	"		1,800	1,800	7 50		
	La Compagnie Champoux, D'Israeli	9	"	"	"		700	700	7 50		

STATEMENT showing the Electric Light Companies registered under the Electric Light Inspection Act, for nine months ended March 31, 1907—*Continued.*

Districts.	From whom Collected.	Serial No.	By whom Collected.	Certificate for Fiscal Year.	Number of Lamps.			Registration Fees.	Totals.
					Arc.	Incandescent.	Totals.		
								$ cts.	$ cts.
Sherbrooke.. ...	The Corporation of Bromptonville	10	C.I.R., Sherbrooke	1906-1907	....	625	625	7 50	
	The Corporation of the Town of Coaticooke	11	" "	"	50	2,680	3,180	18 75	
	The Sherbrooke Power, Light & Heat Co	12	" "	"	100	22,000	23,000	18 75	
	The Westbury Electric Light & Heat System, Cookshire	13	" "	"	....	450	450	3 75	
	The Corporation of the Village of Granby	14	" "	"	40	2,500	2,900	18 75	
	The Corporation of the Town of Windsor Mills	15	" "	"	....	2,000	2,000	7 50	
	The Stanstead Electric Light Co	16	" "	"	22	1,400	1,620	7 50	
	N. T. Tanguay, Weedon	17	" "	"	...	200	200	3 75	
	N. T. Tanguay, Weedon	18	" "	1905-1906	....	200	200	5 00	
									173 75
St. Hyacinthe...	The Arthabaska Water & Power Co	1	C. I. R., St. Hyacinthe	1906-1907	.....	4,000	4,000	18 75	
	La Compagnie Electrique de Sorel	2	" "	"	37	3,000	3,370	18 75	
	La Compagnie Electric de Plessisville	3	" "	"	.....	2,800	2,800	18 75	
	Farnham Electric Light Co	4	" "	"	....	1,200	1,200	7 50	
	Nelson Buzzell, Cowansville	5	" "	"	.....	450	450	3 75	
	Deslandes & Chevrette, Actonvale	6	" "	"	....	350	350	3 75	
	N. A. Dufresne, St. Cesaire	7	" "	"	.....	1,700	1,700	7 50	
	M. S. Connell & Sons, Stanbridge East	8	" "	"	.....	225	225	3 75	
	La Compagnie de Gaz, Electriciti & Pouvoir, St. Hyacinthe	9	" "	"	60	7,500	8,100	18 75	
	La Corporation de la Ville de Drummondville	10	" "	"	....	1,100	1,100	7 50	
									108 75
Three Rivers ...	Le Corporation de la Villé de Joliette	1	C.I.R., Joliette	"	*50	1,823	2,323	7 50	
	Dion & Paradis, St. Roch de l'Achigan	2	" "	"	....	500	500	5 00	
	Felix Robert & Cie., St. Lin	3	" "	"	.....	380	380	3 75	
	The North Shore Power Co., Three Rivers	1	C.I.R., Three Rivers	"	93	7,500	8,430	18 75	
	L'Electrique de Grand Mére	2	" "	"	.....	1,875	1,875	7 50	
	The St. Maurice Light and Power Co., Shawinigan Falls and Berthierville	3	" "	"	1	1,950	1,960	7 50	
									50 00
St. John.....	The St. John Railway Co	1	C.I.R., St. John	"	700	27,000	34,000	18 75	
	The Fredericton Gas Light Co	2	" "	"	20	3,666	3,866	18 75	
	The St. Stephen Electric Light Co	3	" "	"	48	1,966	2,446	18 75	

	The Woodstock Electric Light Co., Ltd	4	"	"	"		900	900	7 50		
	C. M. Sherwood, Centreville	5	"	"	"	5	350	400	3 75		
	The Sussex Manufacturing Co., Ltd	6	"	"	"	2	958	978	7 50		
	City of Moncton Water and Light Department	7	"	"	"	68	6,700	7,380	18 75		
	The Sackville Electric Light and Telephone Co., Ltd.	8	"	"	"		1,353	1,353	7 50		
	The Corporation of the Town of Newcastle	9	"	"	"	26	2,600	2,860	18 75		
	The Corporation of the Town of Chatham	10	"	"	"	10	2,200	2,300	18 75		
	The Kent Electric Co., Ltd., Richibucto	11	"	"	"		1,800	1,800	7 50		
	A. & R. Loggie, Loggieville	12	"	"	"		350	350	3 75		
	The Bathurst Electric and Water Power Co	13	"	"	"	2	1,650	1,670	7 50		
	The Town of Campbellton Electric Light Department	14	"	"	"	30	1,800	2,100	18 75		
	The Woodstock Electric Railway Light and Power Co.	15	"	"	"	12	1,500	1,620	7 50		
											183 75
Halifax	Halifax Electric Tramway Co., Ltd	1	C.I.R., Halifax		"	358	40,056	46,636	18 75		
	Town of Annapolis Royal	2	"	"	"	2	1,200	1,220	7 50		
	Windsor Electric Light and Power Co., Ltd	3	"	"	"	6	3,000	3,060	18 75		
	Dartmouth Gas, Electric Light, Heating and Power Co., Ltd.	4	"	"	"		1,900	1,900	7 50		
	John Daly, Digby	5	"	"	"		800	800	7 50		
	Oxford Electric Co., Ltd	6	"	"	"		490	490	3 75		
	Acadia Electric Light Co., Wolfville	7	"	"	"		1,700	1,700	7 50		
	Town of Parrsboro' Electric Light Plant	8	"	"	"		1,200	1,200	7 50		
	Milton Electric Light, Power and Manufacturing Co., Ltd.	9	"	"	"		464	464	3 75		
	The Town of Bridgewater Electric Light Works	10	"	"	"		1,800	1,800	7 50		
	The Kentville Electric Light and Power Co., Ltd	11	"	"	"	2	1,400	1,420	7 50		
	The Bridgetown Electric Light and Power Co., Ltd	12	"	"	"		700	700	7 50		
	Edison Electric Light and Power Co., Spring Hill	13	"	"	"		1,725	1,725	7 50		
	The Chambers Electric Light and Power Co., Ltd., Truro	14	"	"	"	2	8,500	8,520	18 75		
	The Town of Liverpool Electric Light Works	15	"	"	"	25	1,700	1,950	7 50		
	Lunenburg Gas Co., Ltd	16	"	"	"		1,900	1,990	7 50		
	The Yarmouth Street Railway Co., Ltd	17	"	"	"		400	400	3 75		
	Bear River and Digby Electric Light, Heating and Power Co., Ltd	18	"	"	"		472	472	3 75		
	Logan & Co., Electric Light Works, Shubenacadie	19	"	"	"		300	300	3 75		
	Town of Mahone Board of Water Commissioners	20	"	"	"		500	500	3 75		
	The Canada Electric Co., Ltd., Amherst	21	"	"	"	10	3,500	3,600	18 75		
	Antigonish Electric Co	1	C.I.R., Pictou		"		1,200	1,200	7 50		
	Cape Breton Electric Co., Ltd., North Sydney	2	"	"	"	26	3,638	3,298	18 75		
	Corporation of the Town of Pictou	3	"	"	"	33	3,100	3,430	18 75		
	Cape Breton Electric Co., Ltd., Sydney	4	"	"	"	65	15,313	15,963	18 75		
	Sydney Mines Electric Co	5	"	"	"	1	1,716	1,726	7 50		
	Corporation of the Town of Glace Bay	6	"	"	"	8	7,358	7,438	18 75		
	New Glasgow Electric Co., Ltd	7	"	"	"	42	8,000	8,420	18 75		
	The Inverness Railway and Coal Co	8	"	"	"	8	428	508	7 50		
	Port Hood Richmond Railway Coal Co., Ltd	9	"	"	"	10	500	600	7 50		
	Cape Breton Electric Co., Ltd., Sydney	10	"	"	1907 1908	26	3,306	3,560	25 00		
	The Port Hood Richmond Railway Coal Co	11	"	"	"		500	500	5 00		
											333 75

* Arc lights used in street lighting.

APPENDIX J—*Concluded.*

STATEMENT showing the Electric Light Companies registered under the Electric Light Inspection Act, for nine months ended March 31, 1907—*Concluded.*

Districts.	From whom Collected.	Serial No.	By whom Collected.	Certificate for Fiscal Year.	Number of Lamps.			Registration Fees.	Totals.
					Arc.	Incandescent.	Totals.		
								$ cts.	$ cts.
..arlottetown.	Summerside Electric Light Co., Ltd.	1	C. I. R., Charlottetown..	1906-1907.	25	1,250	1,500	7 50	
	Charlottetown Light and Power Co., Ltd.	2	" " ..	" .	76	8,500	9,260	18 75	
	Montague Electric Light Co., Ltd.	3	" " ..	" .	.....	400	400	3 75	
									30 00
Winnipeg.....	Calgary Water Power Co., Ltd.	1	C. I. R., Calgary	" .	.....	5,000	5,000	18 75	
	The Western General Electric Co., Ltd., Red Deer	2	" "	" .	12	1,243	1,363	18 75	
	Macleod Electric Light and Power Co.	3	" "	" .	.....	980	980	7 50	
	The Corporation of the City of Calgary	4	" "	" .	94	3,000	3,940	18 75	
	Lethbridge Electric Co., Ltd.	5	" "	" .	10	2,000	2,100	18 75	
	City of Edmonton	6	" "	" .	99	12,000	12,990	18 75	
	City of Wetaskiwin	7	" "	" .	16	1,000	1,160	75 18	
	Board of Water and Light Commissioners, Fort William	1	C. I. R., Port Arthur....	" .	50	7,000	7,500	18 75	
	Corporation of the Town of Port Arthur	2	" " ...	" .	13	8,988	9,118	18 75	
	The Winnipeg Electric Railway Co.	1	C. I. R., Winnipeg.....	" .	101	83,750	84,760	18 75	
	Corporation of the City of Regina	2	" "	" .	32	8,500	8,820	18 75	
	Corporation of the Town of Kenora	3	" "	" .	40	5,000	5,400	18 75	
	Corporation of the City of Prince Albert	4	" "	" .	2	1,900	1,920	7 50	
	Corporation of the Town of Danphin	5	" "	" .	14	1,800	1,940	7 50	
	The Brandon Electric Light Co., Ltd.	6	" "	" .	50	15,000	15,500	18 75	
	The Corporation of the Town of Neepawa	7	" "	" .	13	2,504	2,634	18 75	
	The Selkirk Electric Light and Power Co., Ltd.	8	" "	" .	.....	1,500	1,500	7 50	
	The Corporation of the Town of Moose Jaw	9	" "	" .	45	3,800	4,250	18 75	
	The Municipality of the Town of Indian Head	10	" "	" .	30	1,700	2,000	7 50	
	The Minnedosa Electric Light Co.	11	" " ..	" .	5	1,400	1,450	7 50	
	The Central Electric Co., Ltd., Portage la Prairie	12	" "	" .	13	3,500	3,630	18 75	
	George Collison, Estevan	13	" "	" .	.....	500	500	3 75	
	The Turtle Mountain Milling Co., Boissevain	14	" " ..	" .	.....	600	600	7 50	
	The Morden Electric Light Co.	15	" " ...	" .	.....	900	900	7 50	
	The Carman Electric Light and Power Co., Ltd.	16	" "	" .	2	1,200	1,220	7 50	
	The Corporation of the Town of Carberry	17	" "	" .	15	700	850	3 75	
									356 25

Vancouver	Corporation of the City of Kamloops	1	C. I. R., Vancouver	"		4,000	4,000	18 75		
	The Sandon Water Works and Light Co	2	" "	"		450	450	3 75		
	The West Kootenay Power and Light Co., Ltd., Rossland	3	" "	"	40	5,000	5,400	18 75		
	The Greenwood Electric Co., Ltd	4	" "	"	12	1,500	1,620	7 50		
	Corporation of the City of Vernon	5	" "	"		1,800	1,800	7 50		
	The Consolidated Mining and Smelting Co. of Canada, Ltd., Trail	6	" "	"	50	1,000	1,500	7 50		
	The Corporation of the City of New Westminster	7	" "	"	115	11,000	12,150	18 75		
	The Corporation of the City of Grand Forks	8	" "	"	12	1,500	1,620	7 50		
	The British Columbia Electric Railway Co., Ltd., Vancouver	9	" "	"	583	113,619	119,449	18 75		
	The Corporation of the City of Nelson	10	" "	"	6	6,000	6,060	18 75		
	The Daly Reduction Co., Ltd., Hedley	11	" "	"		250	250	3 75		
	The Corporation of the City of Revelstoke	12	" "	"	5	1,900	1,950	7 50		
	The Ashcroft Water, Electric and Improvement Co	13	" "	"		470	470	3 75		
	The Cranbrooke Electric Light Co., Ltd	14	" "	"	4	1,816	1,856	7 50		
	The Kootenay Electric Co., Ltd., Kaslo	15	" "	"		854	851	7 50		
	The Crow's Nest Pass Electric Light and Power Co., Ltd., Fernie	16	" "	"	13	2,200	2,330	18 75		
	The Crow's Nest Pass Electric Light and Power Co., Ltd., Michel	17	" "	"		700	700	7 50		
	The Cascade Water Power and Light Co., Ltd	18	" "	"		30	30	3 75		
										187 50
Victoria	Victoria Electric Co., Ltd	1	C. I. R., Victoria	"		260	260	3 75		
	Nanaimo Electric Light, Power and Heating Co, Ltd	2	" "	"	55	2,500	3,050	18 75		
	Cumberland Electric Light Co., Ltd	3	" "	"		1,600	1,600	7 50		
	The Victoria Electric Railway Co., Ltd	4	" "	"	59	52,482	53,072	18 75		
										48 75
Dawson	Dawson Electric Light and Power Co	1	C. I. R., Dawson	"				18 75		
	Yukon Electrical Co., Ltd. Whitehorse	2	" "	"				7 50		
										26 25
										4,018 13
	Less—Refund as per statement No. 16									16 88
										4,001 25

INLAND REVENUE DEPARTMENT,

OTTAWA, May 31, 1907.

W. J. GERALD,

Deputy Minister.

REPORT, RETURNS AND STATISTICS

OF THE

INLAND REVENUES

OF THE

DOMINION OF CANADA

FOR THE NINE MONTHS ENDING MARCH 31

1907

PART III

ADULTERATION OF FOOD

PRINTED BY ORDER OF PARLIAMENT

OTTAWA
PRINTED BY S. E. DAWSON, PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1907

[No. 14—1908]

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REPORT

OF THE

DEPUTY MINISTER OF INLAND REVENUE.

INSPECTION OF FOODS, DRUGS AND FERTILIZERS.

To the Hon. Wm. Templeman,

Minister of Inland Revenue.

Sir,—I have the honour to submit herewith the reports of the official analysts of the Dominion for the fiscal period ended March 31, 1907.

The following is a summary statement of the number of collected samples analysed by the district analysts during the fiscal period ended March 31, 1907.

Description.	Genuine.	Doubtful.	Adulterated.	Total.
Butter	94	2	15	111

The following is a summary statement of the collected samples analysed by the Chief Analyst and staff at the Inland Revenue Laboratory in Ottawa for the period ended March 31, 1907.

Description of Sample.	Genuine.	Doubtful.	Adulterated.	Total.
Potted Meats and Bologna Sausages				90
Rolled Oats and Oatmeal	91	64		155
Common Salt	81	6		87
Tomato Catsup	26	23		49
Tea	82	7		89
Butter	871		10	881
Breakfast Foods				99
	1,151	100	10	1,450

The following statement shows the total number of samples examined during the fiscal years ended June 30, 1904, 1905, 1906 and the fiscal period ended March 31, 1907.

	1904.	1905.	1906.	1907 (9 mos.)
1. Number of samples collected by the food inspectors for examination	1,417	731	2,944	1,551
2. Number of these samples examined by the public analysts	213	305	849	101
3. Number of these samples examined in the laboratory here	1,341	634	2,469	1,450
4. Number of duplicate samples submitted to the district analyst after being worked here				10
5. Number of samples examined in the laboratory here, duplicates of which were not analysed by the public analysts	1,808	957	2,677	2,090
This number however includes the following :—				
Samples of beer	15	31	18	19
" vinegar	239	239	273	304
Standard fertilizers	111	120	153	176
Sundry others	83	119	74	123
Samples examined for other departments :—				
Agriculture				4
Militia and Defence	5	2	22	24
Total samples examined	2,363	1,653	3,913	2,201

In my report for the years 1904 and 1907 reference was made to the desirability of establishing standards of purity for food. This subject has, since these dates, received the careful consideration of the Department and the Chief Analyst, in his report, states that he hopes to record substantial progress during the next twelve months.

It will be observed that, with the exception of butter, no adulteration was discovered in connection with articles examined during the fiscal period ended March 31, 1907.

Proceedings were instituted, through the courts, against persons found selling adulterated butter. Several convictions were secured and the balance of the cases are in the hands of the Department of Justice.

I have the honour to be, sir,

Your obedient servant,

W. J. GERALD,

Deputy Minister.

INLAND REVENUE DEPARTMENT,

OTTAWA, September 24, 1907.

REPORT OF THE CHIEF ANALYST

317 Queen Street,

Ottawa, August 8, 1907.

W. J. Gerald, Esq.,
Deputy Minister of Inland Revenue.

Sir,—The sudden and entirely unexpected death of Mr. Thomas Macfarlane, chief analyst, on the 10th of June last, has necessitated my undertaking the task of preparing this report; the content of which has regard to the last period of work done under his guidance and control

As a matter of fact, the work herein recorded, covers a period of only nine months: which is explained by the change in the date of closing the fiscal year, which now ends with the 31st of March, instead of the 30th June, as formerly.

During this nine months period, 1,551 samples have been collected by our food inspectors, and analysed. This work is given in detail in the following bulletins, which appear as an appendix to this report.

Number of Bulletin.	Subject.	Number of Samples.
125	Potted meats and Bologna sausages	90
126	Food preservatives	
127	Rolled oats and oatmeal	155
128	Common salt	87
129	Tomato catsup	49
130	Tea	89
131	Butter, 1906	101
132	Breakfast foods	99
133	Butter, 1907	881
	Total	1,551

Besides what has already been mentioned the following additional analytical work was carried out in this laboratory:—

Total number as per Bulletins, 1,551.

Inland Revenue—	
Standard Fertilizers	176
Beer	19
Fusel oil	9
Vinegar	304
Spirits	4
Patent medicines	27
Fertilizers	4
Green peas (canned)	1
Wood-spirit	18
Malt	2
Maple syrup	4
Flour	1
Beverage	3

Vinegar (special)	3	
Chocolate	2	
Cocoa butter	1	
Porterine	1	
Cream	2	
Water	3	
Essence of lemon	1	
" vanilla	1	
Acetic acid	12	
Olive oil	2	
Lard	1	
Maple sugar	3	
Butter (special)	4	
Turpentine	2	
White lead in oil	1	
Milk	1	
Black pepper	2	
Honey	5	
Shorts	1	
Ink	2	
		622
Agriculture—		
Preservatives	3	
Butter (oleomargarine)	1	
		4
Militia and Defence—		
Coal	1	
Jam	21	
Water	2	
		24
		650
		1,551
		2,201

The total number of samples analysed is therefore 2,201, for the nine months from July 1, 1906 to March 31, 1907.

In addition to the work stated there has been prepared for use in vinegar testing, the following solutions, supplied to the Outside Excise service :—

Inland Revenue—

Outside service.

Soda solution (normal)	30 Winchesters.
Phenolphthalein Sol	12½ lbs.
Normal sulphuric acid	4 litres.

Extended researches upon the denaturing of alcohol for industrial purposes, and the investigation of natural gas, have been carried out and reported to the proper authorities. The work contained in Bulletin No. 126, which summarizes our knowledge of food preservatives has also entailed the expenditure of much time.

In his last report, the late lamented chief analyst drew your attention to the very important subject of defining standards for food and drug products ; and recommended the publication of *pro tem.* results arrived at by a committee of experts, meeting at Washington, D. C., and approved by the secretary of Agriculture of the United States of America. This matter is recognized as of prime importance by all countries possessing Food laws ; and while I am not yet in a position to add anything of importance to the

report published last year, I shall keep the matter before me, and hope to record substantial progress during the next twelve months.

I append the reports of the several district analysts, covering the period July 1, 1906 to March 31, 1907.

I have the honour to be, sir,

Your obedient servant,

A. McGILL,
Chief Analyst.

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112 St. François Xavier Street,

Montreal, April 8, 1907.

The Deputy Minister,
Inland Revenue Department,
Ottawa.

Dear Sir,—I have the honour to submit my report of analyses made during the fiscal period (nine months) ending March 31, 1907.

I have analysed 46 samples of butter. Of these 32 were genuine and 14 adulterated.

The adulterant in four of the samples is water. The remaining ten adulterated samples were found to be margarine or butter substitute.

I have the honour to be, sir,

Your obedient servant,

(Sgd.) J. T. DONALD.

---

66 Bedford Row,

Halifax, N.S., July 29, 1907.

The Deputy Minister of Inland Revenue,
Ottawa.

Sir,—I have the honour to submit my annual report on the samples of food, analysed by me during the period ending March 31, 1907.

	Genuine.	Adulterated.	Total.
Butter	14	1	15

I have the honour to be, sir,

Your obedient servant,

(Sgd.) MAYNARD BOWMAN.

FACULTY OF APPLIED SCIENCE AND ENGINEERING,
UNIVERSITY OF TORONTO,
SCHOOL OF PRACTICAL SCIENCE,
TORONTO, July 31, 1907.

The Deputy Minister of Inland Revenue,
Ottawa.

SIR,—I have the honour to submit to you my report for the fiscal period, July 1, 1906 to March 31, 1907.

During the past year I have analysed 26 samples of butter of which 25 were genuine and 1 doubtful.

I have the honour to be, sir,
Your obedient servant,

(Sgd.) W. HODGSON ELLIS,
per J. W. BAIN.

OTTAWA, July 29, 1907.

The Deputy Minister of Inland Revenue,
Ottawa.

SIR,—I have the honour to submit my annual report of the work done under my supervision during the fiscal year ending March 31, 1907.

Sixteen samples of butter were submitted to me for analysis and report. Of these fifteen were pronounced genuine and one reported as deficient in fat.

I have the honour to be, sir,
Your obedient servant,

(Sgd.) F. X. VALADE, M.D.

PUBLIC ANALYST'S OFFICE,
VICTORIA, B.C., August 5, 1907.

To the Commissioner of Inland Revenue,
Ottawa.

SIR,—I beg to submit my report for the period from 1st July, 1906 to 31 March, 1907.

During this period I have analysed eight (8) samples of butter; all being found genuine.

I have the honour to be, sir,
Your obedient servant,

C. J. FAGAN, *Official Analyst.*

APPENDIX A.

BULLETIN No. 125—POTTED MEATS AND BOLOGNA SAUSAGES.

Ottawa, September 6, 1906.

W. J. Gerald, Esq.,

Deputy Minister of Inland Revenue.

Sir,—In my report of July 25 last, I referred to the possibility that some of the samples of potted meats described in Bulletin No. 123 (Canned Meats) might be found to contain cereal products, and advised you that it was the intention to refer to them in a subsequent report. Since then they have been subjected to microscopical examination and also to the test for foreign colouring matter by Mr. Lemoine. Only in one instance was any of the latter detected: namely, in sample No. 409, Chicken, Ham and Tongue, manufactured by W. Clark, Montreal. All the other potted meats referred to were free from dyes. As regards the presence of foreign starch and consequently of meal from cereals of some description, it was detected in the following samples, of which more particular mention has been made in Bulletin No. 123.

Name of Sample.	No. of Sample.	Name and Address of Vendor.	Name and Address of Manufacturer or Furnisher.
		District of Nova Scotia.	
Ready Lunch Turkey Loaf.	27129	Billman & Chisholm, Halifax, N.S.	W. Clark, Montreal, P.Q.
Chicken, Ham and Tongue.	27139	" "	" "
Veal Loaf	27136	J. F. Crowe & Co., Halifax, N.S.	Armour Packing Co., Chicago.
Ham Loaf	27143	Dillon Bros., Halifax, N.S.	Libby, McNeill & Libby, Chicago.
Potted Chicken	27144	" "	" "
Veal Loaf	27149	W. E. Crowe & Co., Halifax, N.S.	" "
Devilled Tongue	27150	C. E. Choat & Co., Halifax, N.S.	Laing Packing Co., Montreal.
Potted Tongue	27157	Black & Co., Truro, N.S.	Libby, McNeill & Libby, Chicago, U.S.
Potted Ham	27165	E. E. O'Brien, Truro, N.S.	Wm. Clark, Montreal.
Potted Tongue	27168	H. W. Ryan, Truro, N.S.	Libby, McNeill & Libby, Chicago, U.S.
		District of Prince Edward Island.	
Beef Loaf	28296	Sanderson & Co., Charlottetown	Libby, McNeill & Libby, Chicago, U.S.
Veal Loaf	28309	R. T. Holman, Summerside	G. H. Hammond Co., Chicago, U.S.
Potted Ham	28315	T. White, Charlottetown	The Dominion Packing Co., Charlottetown, P.E.I.
Ham Loaf	28318	M. Duffy, Charlottetown	Libby, McNeill & Libby, Chicago, U.S.

Name of Sample.	No. of Sample.	Name and Address of Vendor.	Name and Address of Manufacturer or Furnisher.
		District of New Brunswick.	
Veal Loaf	24214	Bowman & Cole, 28-30 Water St., St. John, N.B.	Libby, McNeill & Libby, Chicago, U.S
Potted Ham	24219	E. E. MacMichael, 40 Dock St., St. John, N.B.	Armour & Co., Chicago, U.S.
"	24222	John Jackson, 15-16 South Market Wharf, St. John. N.B.	The Wm. Davies Co., Ltd., Toronto, Ont.
Devilled Ham	24228	The F. B. Dunn Packing Co., Fairville, St. John Co., N.B.	Vendors.
Ham, Game and Tongue.	24238	The Sussex Packing Co., Ltd., Sussex, N.B.	"
Ham Loaf	24232	W. A. Porter, cor. Waterloo and Union Sts., St. John, N.B.	Libby, McNeill & Libby, Chicago, U.S.
Chicken Loaf	24234	F. E. Williams Co., Ltd., cor. Princess and Charlotte Sts., St. John, N.B.	Armour & Co., Chicago.
Devilled Ham	24216	W. J. Kent & Co., Water St., Bathurst, N.B.	Libby, McNeill & Libby, Chicago. U.S.
		District of Quebec.	
Veal Loaf	680	H. Pelletier et frère, St. Raymond, Que.	Armour & Co., Chicago.
Potted Ham	683	Edouard Gagnon, Ste. Marie, Beauce, Que.	Turcotte et frère, Que. (Armour & Co.)
Beef Loaf	690	L. N. Lavasseur, Fraserville, Que	Whitehead & Turner, Quebec.
Melrose Paté	692	Alf. Lecompte, Fraserville, Que	Libby, McNeill & Libby, Chicago.
Chicken, Ham and Tongue.	709	L. N. Bergeron, Quebec	Turcotte et frère, Quebec.
		District of St. Hyacinthe.	
Devilled Brand Chicken.	407	O. T. Piché, Drummondville, Que.	W. Clark, Montreal.
Potted Tongue	409	W. Murry & Co., Sherbrooke, Que.	"
Chicken Loaf	423	Paul Tourigny, Victoriaville, Que.	Libby, McNeill & Libby, Chicago.
Chicken, Ham and Tongue.	416	Victor Trudeau, St. Lambert, Que	W. Clark, Montreal.
Potted Ham	421	Sorel Meat Market, Sorel, Que	The Laing Packing and Provision Co., Ltd., Montreal.
Melrose Paté	430	W. Beaudry, Valleyfield, Que.	Libby, McNeill & Libby, Chicago.
Veal Loaf	431	" "	" "
Chicken Loaf	433	Sorel Meat Market, Sorel, Que.	" "
Ham Loaf	434	" "	" "
"	436	Alf. Francoeur et Cie, Sorel, Que.	" "
		District of Montreal.	
Chicken, Ham and Tongue.	26782	Wm. Clark, Montreal.	Vendors.
Chicken Loaf	27666	Demers, Fletcher & Co., St. Paul St., Montreal.	Armour Co., Chicago.
Beef Loaf	27667	" "	"
Ham Loaf	27668	" "	"
Sausage Meat	27669	Hudon, Orsali & Co., St. Paul St., Montreal.	Libby, McNeill & Libby, Chicago.
Ham Loaf	27677	L. Chaput fils & Co., DeBresoles St., Montreal.	" "
Chicken Loaf	27678	" "	" "
Cottage Loaf	27680	" "	" "

Name of Sample.	No. of Sample.	Name and Address of Vendor.	Name and Address of Manufacturer or Furnisher.
		District of Ottawa.	
Chicken Tamale	29309	F. W. Forde, 189 Rideau St., Ottawa	Libby, McNeill & Libby, Chicago.
Potted Ham	29310	" "	" "
Veal Loaf	29311	" "	" "
Potted Ham	29318	J. Bambrick, 59 George St., Ottawa	W. Clark, Montreal.
Potted Tongue	29319	" "	Davies, Toronto.
Chicken Loaf	29331	R. E. Powell, Wellington St., Ottawa	W. Clark, Montreal.
Chicken, Ham and Tongue.	29332	" "	"
Chicken Loaf	29337	" "	Libby, McNeill & Libby, Chicago
Cottage Loaf	29339	" "	" "
Melrose Paté	29341	" "	" "
Chicken Loaf	29344	" "	Armour & Co., Chicago.
Potted Ox Tongue	29349	Mayberry & Co., Prescott, Ont	" "
Beef Loaf	29354	J. Culbert, Brockville, Ont	" "
Potted Beef	29355	Davies & Co., Brockville, Ont	Davies & Co., Toronto.
Potted Ham	29356	" "	" "
		District of Kingston.	
Beef Loaf	29449	J. P. McKeeny, Port Hope, Ont.	Libby, McNeill & Libby, Chicago.
Veal Loaf	29452	S. Fount, Main St., Port Hope, Ont.	" "
Ham Loaf	29454	D. Adams, Kent St., Lindsay, Ont	Armour, Chicago.
Veal Loaf	29455	" "	"
Potted Ox Tongue	29459	A. Primeau, Lindsay, Ont.	"
Veal Loaf	29463	J. Sutherland, George St., Peterborough	"
		District of Toronto.	
Veal Loaf	27618	Green Valley Produce Co., 434 Queen St, Toronto.	Libby, McNeill & Libby, Chicago.
"	27619	" "	Armour & Co., Chicago.
Ham Loaf	27620	F. W. Chapman, 530 Yonge St., Toronto	Libby, McNeill & Libby, Chicago.
Potted Ham and Turkey.	27624	H. Tolchard, 518 Yonge St., Toronto	Columbia Conserve Co., Indianapolis, U.S.
Ham Loaf	27625	F. Patience, 429 Yonge St., Toronto	Armour Co., Chicago.
Cottage Loaf	27631	Ebby, Blain Co., Ltd., Front St., Toronto	Libby, McNeill & Libby, Chicago.
Chicken Loaf	27632	" "	" "
Veal Loaf	27604	The Wm. Davies Co., Ltd., Toronto, Ont	Vendors.
Melrose Paté	27609	Michie Co., Ltd., King St. W., Toronto	Libby, McNeill & Libby, Chicago.
Chicken a	27610	" "	Armour & Co., Kansas City.

Name of Sample.	No. of Sample.	Name and Address of Vendor.	Name and Address of Manufacturer or Furnisher.
		District of London.	
Chicken and Ham	30097	John Beattie & Co., Seaforth, Ont.	Wm. Clark, Montreal.
Potted Tongue	30100	J. W. Smith, Goderich, Ont	Libby, McNeill & Libby. Chicago.
Libby's Ham Loaf	30102	Cardino Bros., Seaforth, Ont	" "
Ham and Tongue	30103	Peter Dill, Seaforth, Ont	Wm. Clark, Montreal.
Potted Tongue	30105	M. H. Killoran, Stratford, Ont	Wm. Davies & Co., Toronto.
Potted Beef	30116	Geo. H. Wairn, Windsor, Ont	Armour Canning Co., Chicago.
		District of Manitoba.	
Beef Loaf	28129	Malkin & Co., Vancouver	Wm. Clark, Montreal
Veal Loaf	28135	" "	"
Ham Loaf	28138	" "	"
Chicken Tamale	28139	"	Spanish American Food Co., San Francisco, Cal.
Veribest Devilled Ham.	28144	" "	Armour & Co., Chicago.
" "	28145	" "	Libby & Co., Chicago.
Veal Loaf	28146	" "	" "
Ham Loaf	28147	" "	Armour & Co., Chicago.

It will, from this, be observed that many of the samples of canned meats described in Bulletin No. 123 contain additions of meal or flour, which, of course, cannot be regarded as adulteration if the fact is indicated by the name of the article. It may be that this is done by the use of the word 'loaf' in a great many instances. But the words 'potted,' 'devilled,' &c., do not justify the addition of flour or corn meal, and articles with such names cannot be regarded as otherwise than adulterated if they have received additions of cereal products. Samples have been collected of the latter, as used in the packing-houses, and the following shows their origin :—

Date of Collection.	Name of Article.	No. of Sample.	Name of Vendor.	Name of Manufacturer.
1906.				
July 19..	Bull Meat Flour	27685	Montreal Packing Co., Mill St.	B. Heller Co., Chicago.
" 31..	Bologna Sausage Filler	30142	William Davies & Co., Toronto.	
Aug. 1..	Bologna Filler Flour	30144	Park, Blackwell Co., Toronto	Shaw Milling Co., Toronto.
" 2..	Potato Flour.	30146	F. W. Fearman & Co., Hamilton	Imported from New York.
" 2..	Bologna Filler	30149	Fowler's Canadian Packers	Wolf, Sayer & Co., Montreal.

Examined under the microscope, samples 27685 and 30144 are seen to consist of maize flour, while No 30142, although consisting mainly of the same product, contains besides some undetermined tissues. Nos. 30146 and 30149 consist almost exclusively of potato starch.

In accordance with instructions from the Department, dated July 16, samples of bologna and other sausages were obtained for the purpose of subjecting them to the same sort of examination as the canned meats. Many of these, as was anticipated, rapidly underwent decomposition and had to be discarded. Those which actually came under the observation of the analyst will be found described in the table appended to this report, the results stated in which were obtained by Mr. A. Lemoine. The following is a recapitulation of the number of samples examined :—

Inspection District.	No. of Samples Examined.	No. Containing Preservatives.	No. Containing Dyes.
New Brunswick	4	0	1
Quebec	4	0	0
St. Hyacinthe	1	0	1
Montreal	8	2	5
Ottawa	5	2	2
Kingston	2	0	0
Toronto	2	0	0
London	3	0	0
British Columbia	3	1	2
	32	5	11

From this it will be seen that of the number of samples of bologna sausages, which escaped decomposition, and whose examination was possible, about one-sixth contained preservatives and about one-third were artificially coloured.

I have the honour to be, sir,

Your obedient servant,

THOMAS MACFARLANE,

Chief Analyst.

RESULTS OF EXAMINING SAMPLES OF BOLOGNA SAUSAGES, &c.

DISTRICT OF NEW BRUNSWICK—J. C. FERGUSON, INSPECTOR.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost. Lbs.	Cost. cts.	Name and Address of Manufacturer or Furnisher.	Inspector's Report.	Condition of Sample.	Preservatives Present.	Artificial Colouring Substances.
1906.										
July 19..	Sausage, Bologna..	24250	John Hopkins, 186 Union St., St. John, N. B.	1½	23	John Hopkins, 186 Union St., St. John, N. B.	Taken from stock in store room; no label on package.	Good	None	None.
" 19....	" "	24251	Lawson Bros., 150 Brussels St., St. John.	1½	20	Lawson Bros., 150 Brussels St., St. John, N. B.	Taken from stock in factory; no label on package.	"	"	Present.
" 19..	" "	24252	J. R. Vanwart, 124 Bridge St., St. John, N. B., North End.	1½	23	John Hopkins, St. John, N. B.	Taken from stock in cold storage; no label on package. In North End, Indiantown; old city of Portland	"	"	None.
" 19....	Sausage, Bologna, English.	24253	Lilly & Sons, 507 Main St., St. John, N. B., North End.	2	30	Lilly & Sons, 507 Main St., St. John, N. B.	Taken from stock in store Fresh made. No label on package.	"	"	"

DISTRICT OF QUEBEC—C. E. ROY, INSPECTOR.

July 17....	Sausage ..	697	Baller Bros. & Sons, Finlay Market, Que.	1½	23	Vendors		Mouldy	None.	None.
" 17...	"	698	Ed. Begin, Jacques Cartier Hall, Que.	1½	16	J. B. Renaud et Cie, Que.		"	"	"
" 17....	"	699	Louis Rheaume	2	20	Sylvain		"	"	"
" 17....	"	700	R. Ruthman et fils	2	24	Vendors		"	"	"

DISTRICT OF MONTREAL—J. J. COSTIGAN, INSPECTOR.

July	12	Brunswick Sausage	27681	Laing P. & P. Co., retail branch, Chaboillez Sq.	1¾	18	Mfg. by Vendors	Sold as Brunswick sausage.	Good	Boric acid.	Present.
"	12	Bologna Sausage	27682	Masterman P. & P. Co., Notre Dame St.	1¾	18	"		"	"	"
	12	" "	27683	G. F. Fischer, 95 Canning St.	2¾	23	"		"	None	"
"	12	" "	27684	Davies Ltd., retail branch, 1172 St. James St.	2	20	"		"	"	None.
"	19	" "	27686	Montreal Packing Co., Mill St., Montreal.	2	9	"	Sample taken at factory.	"	"	Present.
"	19	Brawn	27687	Laing P. & P. Co., Mill St., Montreal.	2	10	"	" "	Decomposed		
"	19	Brunswick Sausage	27688	V. Castonguay Co., Bourget St., Montreal.	2	11	"	" "	Good	"	"
"	20	Brawn	27689	Davies Ltd., retail store, 421 St. Catherine St. East, Montreal.	1½	23	"		Decomposed		
"	20	Bologna Sausage	27690	N. Dufour, Bonsecour Mkt., Montreal.	1½	12	"		Mouldy	"	None.
"	20	" "	27691	The Whyte Packing Co. agency, Montreal.	1	36	"	At Stratford, Ont.	Good	"	"
"	20	" "	27692	Gisala Brown, 166 St. Lawrence, Montreal.	1½	18	"		Decomposed		

DISTRICT OF KINGSTON—J. HOGAN, INSPECTOR.

July	17	Bologna	29477	Davies Co., Princess St., Kingston.	1½	15	Davies Co., Toronto		Decomposed		
"	17	Sausage	29478	" "	1½	15	" "		"		
"	17	Bologna	29479	Myres, Brock St., Kingston.	1½	18	Mathews, Peterboro'		Mouldy	None	None.
"	17	"	29480	A. Malean, Ontario St.	1½	18	A. Malean		"	"	"

DISTRICT OF ST. HYACINTHE—J. C. ROULEAU, INSPECTOR.

July	23	Frankfort Sausage	156	The Howey Bros. Pakg. Co., Sherbrooke.	1½	19	Manufactured themselves		Decomposed		
"	23	Bologna	457	Alex. Ames, Sherbrooke.	1¾	18	Himself		"		
"	24	"	458	Lue Papineau, St. Jean, Que.	1½	15	V. Castonguay & Co., Montreal.	Label inclosed in jar	Good	None	Presen
"	25	"	459	O. Brodeur, St. Hyacinthe.	1½	15	Masterman Packing & Provision Co., Montreal		Decomposed		

RESULTS OF EXAMINING SAMPLES OF BOLOGNA SAUSAGES, &c.—*Continued.*

DISTRICT OF OTTAWA—A. E. SANDERSON, INSPECTOR.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost. Lbs.	Cost. cts.	Name and Address of Manufacturer or Furnisher.	Inspector's Report.	Condition of Sample.	Preservatives Present.	Artificial Colouring Substances.
1906.				Cans.						
July 19	Brawn	29336	R. E. Powell, Wellington St., Ottawa.	3	75	Canadian Packing Co., London, Ont.		Good	None	None.
" 20	"	29357	Davies & Co., Brockville Ont.	3	45	Davies & Co., Toronto.		"	"	"
				Lbs.						
" 20	Bologna (pork)	29358	" "	1½	23	" "		"	Boric acid.	"
" 20	" (beef)	29359	" "	1½	19	" "		"	"	Present.
" 25	"	29360	Matthews & Co., Ltd., Hull, Que.	1½	15	Vendors		"	None	"

DISTRICT OF TORONTO—T. KIDD, ACTING INSPECTOR.

July 18	Beef Bologna	30130	Wm. Davies & Co., Ltd., meat packers, Toronto.	1½	23	Vendors	Bought from vendor's clerk, who said it was manufactured at their factory in Toronto; called beef bologna.	Mouldy	None	None.
" 18	"	30131	Park, Thompson & Co., 159 King St., Toronto, pork packers.	1½	15	Park, Blackwell & Co., packers, Toronto.	Vendor bought from Park, Thompson & Co., packers and curers, Toronto.	"	"	"

DISTRICT OF LONDON—T. KIDD, INSPECTOR.

July 19	Bologna Sausage	30128	F. W. Freeman & Co., pork packers, Hamilton	1½	15	Vendors	Bought from vendor's clerk and called bologna sausage.	Mouldy	None	None.
" 19	" "	30129	Fowler Canning Co., Hamilton.	1½	15	"	Bought from vendors and is a branch of the Chicago firm.	"	"	"
Aug. 2	" "	30147	F. W. Freeman & Co., packers, Hamilton.	1½	15	"	Bought this from vendor who made same in his factory.	"	"	"

DISTRICT OF BRITISH COLUMBIA—E. B. PARKINSON, INSPECTOR.

July	17	Bologna Sausage		28169	B. C. Market Co., Vancouver.	1½	15	Vendors	Home-made	Mouldy	None	Present.
"	17	"	"	28170	H. A. Edgett & Co., Vancouver.	1½	30	Frye, Bruhn & Co., Seattle, Wash.	Imported	"	"	"
"	17	"	"	28171	R. Porter & Sons, Vancouver.	1½	20	Vendors	Home-made	Decomposed		
"	18	"	"	28172	P. Burns & Co., Vancouver.	1½	20	"	"	Good	Sulphurous acid.	None.

APPENDIX B.

BULLETIN No. 126—FOOD PRESERVATIVES.

OTTAWA, September 27, 1906.

W. J. GERALD, Esq.,

Deputy Minister of Inland Revenue.

SIR,—It is now some time since you requested me to consider a communication received from a Joint Committee appointed by the Canadian Manufacturers Association and the Society of Chemical Industry, asking the Department to make regulations specifying under the provisions of the Adulteration Act, the limits within which preservatives might be legally used in food. Subsequently you authorized Mr. A. McGill, Assistant Analyst to the Chief Analyst, to attend a meeting of the British Medical Association in Toronto and read a paper on the same subject.

Before any action is taken by the Department or this branch, I believe it would be advisable to give the manufacturers and the public generally an opportunity of becoming fully acquainted with the subject. I beg, therefore, to submit a report by Mr. McGill on Food Preservatives and to recommend its publication in the Bulletin Series of this branch.

I have the honour to be, sir,

Your obedient servant,

THOMAS MACFARLANE,

Chief Analyst.

LABORATORY OF THE INLAND REVENUE DEPARTMENT,

OTTAWA, September 8, 1906.

THOS. MACFARLANE, F.R.S.C., &c.,
Chief Analyst, I.R.D.

SIR,—I have the honour to submit for your approval the following report on the general subject of preservatives in food products. A portion of the matter contained in this report has already been published, in June of last year, with your own sanction and that of the then Acting Deputy Minister. A considerable amount of new material has, however, been added, and the whole may be taken to represent, in epitome, the present state of our knowledge on the subject.

A special incentive to the preparation of this report was the meeting of the British Medical Association in Toronto (August 21 to 25). It is apparent that final conclusions regarding the influence of chemical preservatives upon the public health must be reached through the concerted action of the medical profession. If so influential a body of medical men could be induced to take up this subject a working basis for legislation would soon be established. The Secretary of Agriculture for the United States of America has recently (June 30, 1906) been authorized to obtain opinions from experts in the matter of food preservatives, with a view to legislation, and has issued a circular letter in accordance with this authorization.

I believe that the physician is the proper person to give an opinion in this matter, and that medical health officers, in particular, should be expected to pay attention to it. For this purpose, these officials could obtain the co-operation of local physicians, thus furnishing data of first-class value in guiding legislation. The matter is of so great importance as to demand immediate attention and study. But I would utter a word of caution against impetuous and indiscriminating action. The public press has, for some time, taken up the subject of preservatives in food and treated it in a manner quite hysterical. The desire to create a sensation is too much in evidence. This is a question where judicial calmness is needed. I trust that my attempt to present the subject fairly will assist in arriving at sane and honest conclusions.

I have the honour to be, sir,

Your obedient servant,

A. McGILL.

LABORATORY OF THE INLAND REVENUE DEPARTEMENT,

OTTAWA, September 8, 1906.

FOOD PRESERVATIVES.

There has been frequent request, by the interested public, for a note on the subject of food preservatives, which was published with Bulletin 83 (November, 1902). I have thought it worth while to augment this note by additions, which bring the subject-matter down to date. My sketch makes no claim to being exhaustive, but I have reason to believe that no important researches on the physiological effects of preservatives have escaped my attention.

Manufacturers very reasonably ask that the Department of Government which is charged with the administration of the Food Act, should define as clearly as possible its attitude towards the use of preservatives in food. They claim that, without preservatives, their business as packers of meat and fruit products would be destroyed, or at least seriously handicapped. They believe that the chemical substances employed by them are harmless in the quantities used. They wish to use nothing that makes their products unwholesome; they desire to do nothing illegal, and they wish to be definitely instructed as to the conditions under which they may use preservatives and have a guarantee of security against being charged with adulteration under the food laws.

It is inconceivable that legislation in the matter of preservatives in foods should be absolutely prohibitive. Common salt, sugar, vinegar, wood smoke and many other antiseptic substances, whose use goes back further than the memory of man, would have to be excepted. It follows that any laws in this regard must be specifically permissive, *i.e.,* must name the substances which are permitted to be used, or must be specifically prohibitive; whence, by inference, any article not named for prohibition will be regarded as available to the manufacturer until such time as its name is added to the schedule.

Some countries require that the fact of a preservative being used, and its name and amount shall appear on the label. This is good, so far as it goes, but it assumes an amount of knowledge and discrimination on the part of the purchaser which is unreasonable. At the same time I regard it as right and necessary that the presence of a preservative and its name should always be announced on the label, and this for two reasons. First, that the physician may be able to direct the regimen of his patient. Second, that the manufacturer who puts up his goods without a chemical preservative may get due credit.

The manufacturer is naturally desirous to secure cheapness and efficiency in the preservative he uses, and under the term efficiency, I include not only the possession of high antiseptic power, but such qualities as tastelessness, colour, harmlessness to health, &c. The experience of recent years shows that new substances, claiming to possess these characteristics, are being offered from time to time. Is the public to take the risk of testing the harmlessness of such new claimants for favour, or shall we make it illegal to use any new antiseptic until such time as we may feel justified in adding its name to a schedule of substances specifically permitted to be used ?

Manufacturers claim that such action would seriously handicap the search for desirable preservatives. The question is worthy of consideration. I must confess that my own opinion is favourable to the making everything of the nature of a food preservative illegal in use, unless specifically permitted. I am aware that under such conditions, many largely used preservatives, such as borax, boracic acid, benzoates, &c., would have stood a poor chance of demonstrating their efficiency and comparative harmlessness. But we are now in possession of a sufficiently large number of effective

antiseptics to enable us to delay additions to the list until we have had time to make a careful study of the properties of any new substance offered for trial. In other words, we cannot afford to risk a trial which shall involve possible injury to the public health.

I am, for this reason, in favour of *specific permission* in the legalization of preservatives. But this is not enough. The older preservatives, such as salt, vinegar, wood smoke and others, possess decided taste or smell, thus fixing safe limits so far as quantity is concerned, while their comparative inefficiency as antiseptics makes them practically harmless in excess. It is not so with modern antiseptics. These are for the most part devoid of taste and smell; or if bitter (like sodium benzoate), or pungent (like formaldehyde) are so powerful in their germicidal properties that they are effective in quantities too small to be detected by taste or smell. It is quite easy to understand that either through want of knowledge or want of care, a manufacturer may add a harmful dosage of such a preservative, the consumer being unable to judge in the matter. The very potency of our modern preservatives, by virtue of which they can be amployed in small amount, is a reason for carefully limiting the amount.

If the two principles which I have laid down be accepted, it remains to make out a schedule of preservatives which may be used in foods. Perhaps it might suffice to include, under a single heading, the *older preservatives,* although this would be open to some lack of definiteness. We might name, for example, as permissible, without percentage limitation—sugar, salt, vinegar, wood smoke, alcohol.

Saltpetre (nitrate of potash), although among the older preservatives, can scarcely be regarded as sufficiently harmless to permit of its employment without limitation, although its taste is so characteristic as practically to fix a limit. There remain to be considered a long series of substances, the most important being: Boracic acid and borax, sulphurous acid and sulphites, benzoic acid and benzoates, salicylic acid and salicylates, hydroflouric acid and flourides, silicoflourides, formaldehyde, saccharin, beta-napthol (hydronapthol), asaprol (abrastol), hydrogen peroxide, &c.

To whom shall we look for guidance in the matter of deciding what chemical preservatives, if any, may be safely employed and in what amounts?

Chemists have done much to investigate the influence of those substances upon artificial digestion, and upon the properties of the foodstuffs in which they are used. It must be noted, however, that digestion carried out in glass is not identical with the process as carried out in the living body.

Physiologists have accomplished much in the way of investigating the effect of preservatives upon the life processes of the lower animals. The results obtained by biological methods have doubtless great value, but the differences between man and the lower animals are so great as to make necessary very cautious interpretation.

I am convinced that it is to the physician we must look for the final word upon this question. For this reason I had pleasure in bringing the subject to the notice of the British Medical Association at its Toronto meeting in August last. Civic health officers in particular, have opportunity of forming valuable opinions on the subject, and, I believe that upon a matter of so great importance as this one, it would not be difficult to enlist the active sympathy and cordial assistance of every physician.

The notes which follow give a brief account of work done in this field, and it is hoped that their conciseness may make them the more readily acceptable to busy men. Readers desirous of possessing fuller information may refer to original memoirs as indicated.

Official analysts are not to be understood as having any other bias against new methods of preserving food than the general principle that every new thing must be required to show cause for its existence. So far as preserving foodstuffs in wholesome and palatable condition is concerned, we are ready to welcome every innovation which can be proved harmless to health, and effective in that which it proposes to accomplish. Certain methods of preserving foods have been recognized so long and employed so largely, that the safety of using them scarcely comes into question. Such are refrigeration, hermetical sealing *in vacuo* under proper conditions, the smoking of meat, the use of common salt, of vinegar, sugar, alcohol, and other substances. When a new

thing like borax or formaldehyde, or salicylic acid is offered to the public, we say: Demonstrate unequivocally the harmlessness of this article and we shall be glad to commend its use. We don't question its efficacy as an anti-ferment; that is easily demonstrable. But we know hundreds of chemical substances capable of preventing putrification, which we could not dream of recommending for use in foods. And there is such well recognized analogy between ferment action without the human body, and ferment or digestive action within the body, that we should be culpably derelict in duty if we did not insist upon proof of the harmlessness to health of anything which is recognized and recommended as capable of inhibiting putrifactive ferment action in food.

I find an inclination on the part of manufacturers and users of preservatives to throw the onus of proof of the harmfulness of these articles upon those who, by virtue of their official position, are compelled to question the safety of using them. The tremendous magnitude of the responsibility resting upon a public analyst is such that he is compelled to proceed deliberately and cautiously. In a very literal sense he is responsible for the physical health of the nation. His hesitancy to concede the safety of an innovation should not be interpreted as due to a desire to hamper great industries, or to put a brake on the wheels of progress. To be anything less than cautious and deliberate would be criminal.

The extensive use of chemical preservatives in perishable foods is one of the most noteworthy features of our time. That the use of antiseptics is very general, is proven by the result of our own experience, and by the various reports issued by the governments of civilized countries, which make official investigation of food and drink sold in the open market.

It is well known (see paragrapth 75, Report of the British Food Commissioners, and elsewhere) that quantitative methods for the estimation of preservatives and colouring matters in foods, are far from being perfect. Work is being done in this laboratory, and in all national food laboratories, with a view to perfecting methods of research; and there is little doubt that methods commanding universal acceptance and recognition will soon be available. Meantime, our qualitative processes are above suspicion, and the presence of these antiseptics can be ascertained with absolute certainty in most cases. The following note shows that it is not only the peculiar nature of the foodstuff, which may present difficulties to the analyst, but that manufacturers of preservatives seek, by making these as complex as possible, to hamper the search for them in food.

In November, 1898 (Analyst, 1898, 309—), A. C. Chapman, F.I.C., called the attention of the British Society of public analysts to the fact that very complex mixtures were sometimes put on the market as food preservatives. He had found one which contained sulphate of alumina, chloride of sodium, nitrate of sodium, sulphurous acid, chloral hydrate, benzoic acid and iodine, the last probably as hydriodic acid.

Dr. Rideal, in discussion, said that he had met with several such complex preservatives, which he asserted to be almost invariably of French origin, and probably intended to baffle analysts through the introduction of a large number of ingredients.

The extent to which chemical preservatives have come into use is illustrated in a forcible way by the report of A. E. Leach, of the State Board of Health, Massachusetts (Analyst, 1901, p. 280). During the summer months of 1898, 1899 and 1900, 5,169 samples of milk were examined for preservatives, and 179 samples, or 3·5 per cent of the whole number were found to contain such. Of this number 142 contained formaldehyde, and 30 contained boracic acid.

In the Report of the Con. Agri. Expt. Stn., for 1899 (p. 139) after a summary of reasons for condemning the widespread use of chemical preservatives in food, occurs the following:—

The Station has secured a considerable number of the advertised preservatives, and these have been qualitatively and as far as possible quantitively analysed. Results of analysis are as follows:—

'Freezine'—B. Heller & Co., Chicago—A 5·19 per cent solution of formaldehyde.

'Iceline'—Heller Chemical Co., Chicago—is 1·92 per cent formaldehyde.

'Special M. Preservaline'—A solution of formaldehyde, 1·99 per cent.
'Reg Magnus, Snow Flake Brand'—Contains 78·15 per cent boric acid.
'Reg Magnus, Pearl Brand'—Contains 95·72 per cent boric acid.
'M. Preservaline'—Contains 97·81 per cent boric acid.
'BB. Preservaline'—Contains 65·42 per cent boric acid.
'Preservaline Butter Powder'—Is merely bi-carbonate of soda.
'Cream Albuminoid'—Contains 50·4 per cent boric acid.
'Preservaline for Cider'—Is salicylic acid only.
'Blue Seal Preservative'—Contains 70·24 per cent salicylic acid.
'Forman's Cider Preservative'—An alcoholic solution of beta-naphthol.
'Preservite'—Contains 96 per cent benzoate of soda.
'Forman's Preservative for Wine'—Contains 36·13 per cent formaldehyde.
'Compressed Preserving Powder for Beer'—Contains 49·01 per cent of salicylic acid.
'Emken's Preserving Cakes'—Contained 22·09 per cent salicylic acid.
'A. Boake Roberts & Co's., K.M.S.'—Tablets containing 84·35 per cent bisulphite.
'K.M.S. Preserving Powders'—Contained 25·47 per cent bisulphite.
'Reg Magnus, Viandine Brand'—Contained 81·77 per cent boric acid.
'Sportsman's Rex'—Same composition as last.
'Ocean Wave Brand'—Contained 88·85 per cent boric acid.
'A' preservaline for sausages—Contained 68 per cent borax.
'Freeze-Em'—Contains 29·19 per cent sulphurous acid.
'Maas and Waldstein's Preserving Salts'—Six samples contained from 29·05 to 33·16 per cent boric acid.

Although sold under various trade names it will be noted that the active component in most of these articles is formaldehyde, boric acid, salicylic acid or sulphurous acid. The following list gives further illustration of an apparent desire to disguise the presence of the truly efficient chemical constituent of the preservative:—

J. Kochs.—(Apoth. Ztg.—1905-886 'Oetkers' salicylic acid for the household is a mixture of nearly equal parts of salicylic acid and sugar.

Hydrin.—Schlegel (Bericht der Untersuchungsanstalt Nürnberg, 1904, 45) shows that a preservative sold under this name consists of benzoic acid, milk sugar, common salt and sodium phosphate.

Kölner Pokelsalz.—According to Schaffer (Bericht des Kantons Chemikers Bern, 1901, 9) consists of 62:89 per cent chloride of sodium, with saltpetre, cane sugar and sodium benzoate.

Zeolith with 60·58 per cent common salt, contains fluoride, phosphate and acetate of sodium, and traces of sulphates, and sand and dust.

A preservative for dry milk consists of bicarbonate of soda and benzoic acid.

Macinato di Sansa, a preservative for cattle feed, consists of ground olive stones. Benzoate of sodium and impure saltpetre were sold as preservatives for foods in Basel (1904).

Matthes and Müller (Zeit. fur Untersuch. Nahr. and Genussm., 1905-541), discuss a preparation sold as '*Seeths Neues Hacksaltz,*' and highly recommended by the German Butchers' Union. This article consists of sodium benzoate, 20 per cent, sodium phosphate, 75 per cent, and aluminium nitrate, 5 per cent.

Hoffman R. (Apotheker Ztg., 1904, 78). '*Fruktol*' has been put upon the German market, with a certificate from Dr. Lebbin, attesting it to contain no preservative substances forbidden by law. Directions are given to add from 1 to 1½ per cent to fruit juices. Fruktol is a 12½ to 13 per cent solution of formic acid, with some sulphuric acid and organic matter, apparently sugar.

'*Werderol*' is a very similar preparation.

Hoffmann finds that 5cc. of official formic acid added to one kilog. of raspberry juice is an efficient preservative.

Baier.—(Bericht des Untersuchungs—Amtes der Landwirtschaftskammer fur die Provinz Brandenburg, 1903, 4), *Nadol* is a mixture of benzoic ancid and sodium benzoate.

'Carnit' is an aluminum acetate solution containing sugar and saltpetre.

Matthes & Müller (Bericht des Nahrungsmittel)—Untersuchungsmtes Jena, 1903-4—13). Found preservatives on sale having the following composition:—

Eminent.—Common salt 85, sugar 5, saltpetre 5, spices 5 (chiefly pepper).

Nova.—Commercially pure sodium acetate.

Zeolith.—Sodium fluoride 0·4, sodium phosphate 15, sodium chloride 51, sodium acetate 17, water 16·4 per cent.

Es ist Erreicht.—Saltpetre, common salt and phosphate of soda.

I Conservesalt.—Benzoate of soda, common salt and a little saltpetre.

II Conservesalt.—Sodium benzoate, phosphate, chloride and a trace of saltpetre.

Brilliant Conservesalt.—Sodium of alumina, benzoate and phosphate of soda.

Spice Salt.—Sodium sulphite 6 per cent, and also saltpetre, common salt, paprika, pepper and carraway.

Cassalin.—Sugar, common salt, sulphate of alumina, sodium phosphate and benzoate.

Schwartz, F.—(Jahresbericht des Chemischen Untersuchungsamtes Hannover, 1902, 14)—Found preservatives of the following composition on the market:—

	Per cent.
No. 1.—Starch	0·62
Common salt	25·79
Boracic acid	30·48
Saltpetre	39·15
Water	3·96

	Grammes per liter.
No. 2.—Aluminiumacetate	100
Saltpetre	15
Sugar	15

No. 3.—Consisted of two fluids and a mixture of salts.

	Grammes per liter.
I.—Aluminium acetate	100
Saltpetre	25
Sugar	15

II.—Dilute tincture of benzoin salt mixture. Common salt 2 parts; cane sugar 1 part.

	Per cent.
No. 4.—Common salt	22·7
Saltpetre	75·7
Sugar	1·3
Water	0·1

Edward Polenske (Abstr. Ch. Centralb., 1904, I., 903) has investigated a number of preservatives placed on the German market since the edict of Feb., 1902. The following list is interesting:—

1. *Hackfleishpulver Victoriaröte* I: red pepper, &c.
2. *Secura:* aluminium acetate, basic salts and sugar.
3. *Viandol:* acetic acid, alumina, sugar, nitre.
4. *Carnecons:* acetate of alumina, sugar, saltpetre.
5. *Barmenitpökel:* nitre, common salt, sugar, gypsum.
6. *Wittenberger Pökelsalz:* spices, common salt and nitre.
7. *Einfaches Konservierungssalz:* benzoic acid, common salt, nitre, sugar.
8. *Cervelatwurstsalz:* spices, common salt, nitre, sugar.
9. *Carniform* A: phosphate of soda, common salt and nitre.
10. *Carniform* B: phosphate of soda, nitre, phosphate of lime.
11. *Carnokonservensalz:* sodium acetate, common salt.
12. *Rubrolindauerwurstsalz:* chloride of ammonium and nitre.

13. *Michels Cassalasalz:* common salt, sodium phosphate, potassium and sodium tartrate, acetate of alumina, sugar and benzoic acid.

14. *Servator*—special milk and butter preservative. Crystallized benzoic acid, boracic acid and common salt.

The most largely used preservatives are probably salicylic acid and boracic acid; but new substances are being added to this list from time to time. Thus sulphurous acid and sulphites, benzoic acid, fluoride of sodium and many other articles of an antiseptic character are quite frequently reported, and according to A. H. Allen (Analyst, 1902, 178)—the use of silico-fluoride of sodium as a preservative is patented in England, and the compound is manufactured to a considerable extent at Warrington.

The reckless manner in which patentees and manufacturers of preservatives advertise and recommend their goods, is a source of danger to the public health, which demands attention.

The following extract from the report of the Massachusette State Board of Health, 1899—p. 614:—

'The manufacturer of a largely used preservative, known as "Freezine" (which is a weak solution of formaldehyde) issues an attractive pamphlet in which he makes the following remarkable claims. "It is not an adulterant.—It immediately evaporates, so that no trace of it can be found, as soon as it has rendered all the bacteria inert. No chemical analysis can prove its presence in the milk quantatively or otherwise." Its use in milk is also claimed by the manufacturer to be beneficial to the health of infants, many of whom have been saved from sickness and even death, he alleges, by a liberal use of "Freezine" in the milk.'

Not only do manufacturers acclaim the safety and benefit resulting from use of their products, but they obtain and publish what purports to be expert evidence in substantiation of their statements. Thus, in 1899, the Preservaline Company of Chicago, New York and San Francisco, issued a pamphlet giving an account of physiological tests made by Doctors Frœhling, Kuhn and Mœchel in Kansas City. These tests were held to prove that milk preserved with 'Preservaline' (=solution of formaldehyde) was as nourishing as ordinary milk. Another pamphlet, continuing these tests, was issued in 1901—*i.e.,* one year after the English Parliamentary Committee had recommended 'that the use of the formaldehyde, or preparations thereof, in foods or drinks, be absolutely prohibited'—and, Dr. Frœhling, after describing the non-interference of preservaline, with amylolytic and proteolytic digestion, concludes as follows: 'I must say that in all our experiments, we have never found any detrimental effects on the body from the use of preservaline, as prescribed by the company.'

The same company distributes an undated pamphlet by Dr. Randall, health officer of Augusta, Maine, extolling the beneficial effects derived from the use of preservaline (formaldehyde) in the city milk supplies. The doctor uses the following arguments in an appeal along chemical lines:—'It is made from sugar by peculiar methods of distillation and redistillation. . . .Stopping the development of bacteria by an agent as harmless as sugar, is a step in the direction of pure food,' and further:—'The conclusion which has been reached, after a most careful microscopical examination of milk, and a chemical examination of the preservative used, is that it is not harmful but beneficial to the public health.'

National attention in England was drawn to the matter of preservatives in 1897 by the *Lancet,* which issued a circular letter to certain very eminent physicians for the purpose of securing expert opinion on the whole subject.

This circular proposed the following questions:—

1. Is the presence of small quantities of salicylic, boric or benzoic acids or formaline in food, in sufficient quantities to preserve it, injurious to health?

2. Should the use of antiseptics for this purpose be forbidden by law altogether?

3. Should legislation be brought to bear on the restriction of the amount?

4. Should the law insist that when preservatives are used the fact should be stated on the label?

Sir Henry Thompson wrote that 'he had long held that the addition of antiseptics was undesirable, though unable to produce evidence that any one of them had given rise to deleterious action owing to the impossibility of isolating the precise influence of the drug. He objects strongly to the dietetic use of drugs, and is of opinion that the name and quantity of the antiseptic employed should be on the label, or on a paper setting forth the maker's or vendor's name.'

Dr. Pavy wrote that 'he did not consider our knowledge sufficiently extended to permit of its being taken for granted that no injury is producible, though there is no evidence of injury to health. He points out that it is the vendor, and not the consumer, that is benefited. He considers that, notification of the fact of antiseptics being employed, and their nature and amount would be sufficient, any deviation from the notification should be liable to prosecution. With the public interest thus safeguarded, he thinks that advantage might be taken of the power of antiseptics in preserving articles of food.'

Dr. F. J. Allan points out the possibility of daily accumulation of antiseptics quite sufficient to produce a gradual lowering of the standard of health, and is of opinion that the fact of an antiseptic being added, and its nature, should be required by law to to be announced at the time of sale.

Dr. Sims Woodhead draws attention to idiosyncracy and cumulative effect, and dwells upon our ignorance of the action of certain drugs (*e.g.,* formalin) on foodstuffs. He points out that by the use of preservatives foods of inferior quality may be doctored. He would make use of antiseptics illegal unless their nature and quantity be made known.

The late Sir B. W. Richadson considered that antiseptics are not only necessary at this moment, but when used in proper form and quantity cause no injury whatever. There ought to be a license given permitting a certain, fixed, and not a dangerous quantity of antiseptic, and it ought to be stated on the label what the antiseptic is and its quantity.

Dr. T. Lauder Brunton writes that 'one must remember that poisons are formed in foods by spontaneous decomposition, which may take place after purchase. The question to be decided comes to be whether antiseptics are likely to be more injurious to health than the natural products of decomposition. His own belief is that preservatives are the less injurious. His answers are: (1) The use of antiseptics should not be forbidden by law. (2) It is doubtful whether legislation should restrict the amount, as the makers will probably use the minimum amount found sufficient. (3) The fact of preservatives being used, and their amount, should be stated on the label.'

Sir W. Roberts says that 'there is no reliable information available, and an inquiry is needed.'

Dr. W. D. Halliburton is not able to give information as to injurious effects from his exeprience, but quotes F. J. Allen as mentioning cases of ill-health in children due to boric acid.

Dr. J. R. Bradbury thinks that 'it is not necessary to forbid antiseptics, but that the amount should either be restricted, or the fact of their addition stated on the label.'

Dr. Whitelegge cannot speak positively, though it is clear to him that the law should insist upon a plain statement on the label if any preservative be added.

I am tempted to make one remark in connection with the report of Dr. Brunton.

The claim that antiseptics should be used in perishable foods because they are less injurious to health than the poisonous products of the spontaneous decomposition of these foods, seems to me quite untenable. The decomposition of food should be a fact of exceptional occurrence, and such food should be rejected altogether; whereas the systematic addition of an antiseptic to food, in order to prevent decomposition, would result in the habitual dietetic use of a powerful drug.

Recognizing the national importance of the problem, a departmental committee was appointed in July, 1899, to report to the British Parliament upon the following subjects:—

1. Whether the use of such materials (preservatives and colouring matters) or any of them, for the preservation and colouring of food, in certain quantities, is injurious to health, and if so, in what proportions does their use become injurious.

2. To what extent, and in what amounts, are they so used at the present time.

The committee consisted of the Right Honourable Sir H. E. Maxwell, Bart., M.P.; Professor T. E. Thorpe, C.B., D.Sc., F.R.S.; Dr. T. H. Bulstrode and Dr. F. W. Tunnicliffe.

The committee reported to parliament in the following year; and as the evidence taken represents the knowledge of the scientific world upon the subject of preservatives, up to the year 1900, it may be well to make some extracts from the reports as presented. This report together with the minutes of evidence and appendix, forms a closely printed volume of 497 folio pages. From the evidenee brought before the committee it would appear that, at the present time, the only artificial or chemical antiseptic agents other than oils, spirits of wine, vinegar, salt, sugar, &c., employed, or said to be employed, in the preservation of food are:—

Boric or boracic acid and borates; so-called 'boron preservatives.'
Sulphurous acid and sulphites.
Fluorides.
Salicylie acid.
Benzoie aeid or benzoates.
Formalin or formaldehyde.

'As regards fluorides, benzoie acid and the benzoates, it may be said at once that, if employed at all, their use must be extremely limited. Mr. Leonard Boseley, analyst to Messrs. Keiller and Son, Limited, stated that he believed that a firm in London were trying to get benzoate of soda taken up as a preservative for jams.

'The boron preservatives are generally sold in the form of a white powder (sometimes, however, coloured with a coal tar dye) under a great variety of fanciful names, which as a rule afford no clue to their real nature. They are used largely for dairy produce, for margarine, ham, bacon, sausages and preserved meat foods generally, and to a much smaller extent in beverages.

'Salicylie acid eomes next in the extent to which it is used. It is employed ehiefly in beverages and in foods derived from fruit.

'Formalin, whieh is of comparatively reeent introduction, eonsists of a 40 per eent solution of formaldehyde in water. The solution is diluted to various strengths, and sold as a preservative for milk chiefly, and to a less extent for other foods.

'Sulphites are used for very much the same purposes as salicylic acid, especially by brewers. They are also employed by butchers, and to a less extent by game and poultry dealers.

'As the result of an inquiry among a large number of farmers and dairymen, 110 replies were received, and 65 of these admitted the use of preservatives.

'Of 4,251 food samples examined for the committee in the government laboratory, 1,659 samples (=39 per cent) were found to contain preservatives, as follows:—

Borie aeid	1,247 samples.
Salicylic	320 "
Formalin	20 "
Sulphites	143 "

(71 samples were found to contain two preservatives of different kinds.)—

Of 290 samples of	cream	77·9	per cent contained preservatives.
" 364 "	butter	57·1	" "
" 210 "	bacon	70·5	" "
" 185 "	ham	82·7	" "
" 226 "	sausages	66·4	" "
" 48	pork pies	70·8	" "
" 150	samples jam	44·0	" "
" 78 "	lime and lemon juice	88·5	" "
" 769 "	temperance drinks	26·1	" "
" 100 "	imported beers	39·0	" "

'A comparison of the percentages of preservatised foods in the poorer districts and the wealthier districts of London, respectively, shows that they are practically identical, being 42·9 per cent in the former and 43·4 per cent in the latter.

'Preservatives are extensively used in certain foods imported into the United Kingdom from the colonies and foreign countries, especially in butter from Australia, in ham and bacon from Canada, and in butter and margarine from France, Holland and Belgium.

'Of the temperance beverages received from all parts of the United Kingdom, 83·5 per cent of those sold as temperance 'wines' and cordials, contained preservatives, chiefly salicylic acid, and to a less extent sulphites.

'With regard to the amount of the several preservatives, it appears that the boracic acid in the milks varied from 1·3 to 9·1 grains per pint; in cream from 10 to 57 grains per pint; in sausages, potted meats and brawn, from 15 to 66 grains per pound; in butter from 18 to 65 grains per pound; in bacon from 8·6 to 46 grains per pound. The amount of salicylic acid in jams varied from 1·7 to 8·5 grains per pound; in temperance drinks and cordials from 1·5 to 19 grains per pint; in herb beers and similar beverages from 0:5 to 8:1 grains per pint; and in imported beers from 1·3 to 3·4 grains per pint. Sulphites were found to be contained in lime juice, ginger wine, lemon syrup, raspberry and peppermint cordial in amount (estimated as sulphur dioxide varying from 0·1 grain to 4·5 grains per pint.

'Mr. Vasey, who has been employed for upwards of ten years to examine foods and beverages on behalf of the *Lancet*, stated that he had found boric acid in meat peptone and beef jelly intended for invalid use, and that practically all the samples of invalid foods which he had occasion to analyse contained chemical preservatives.

'Dr. Vœlcker testified from personal observation, to the casual and haphazard manner in which both farmers and vendors add preservatives to milk.'

The report continued as follows:—

'Convinced as we are of the very general and increasing use of chemical preservatives by traders in the more perishable articles of food, we desire now to focus the evidence which has been placed before the committee, as to whether such preservatives may be expected to be attended with any risk to the public health.

'The evidence given before the committee bearing on this question may be classified as that of:

A. The public analyst.

B. The medical officer of health.

C. The physician and surgeon.

D. The physiologist and pharmacologist.

A.—THE EVIDENCE OF THE PUBLIC ANALYST.

1. Prosecutions have exercised an inhibiting effect upon the use of preservatives.

2. Maximum amounts found must be regarded as exceptional and unnecessary, yet there is no guarantee that such excessive amounts may not continue to be used.

3. With regard to the precision with which limits could be determined, there was some difference of opinion; and as regards formalin, the evidence was unanimous that the estimation of such minute quantities as may be present in foods, is attended with great difficulty.

4. As to colouring matters the general testimony was to the effect that the nature and amounts of the substances in general use at the present time is such that but little danger is likely to accrue to the public health therefrom.

B.—THE EVIDENCE OF THE MEDICAL OFFICER OF HEALTH.

1. The medical officers of health were practically unanimous in their opinion that all preservatives should be prohibited in milk.

2. They saw danger in the unknown administration of drugs in morbid conditions of the body; and pointed out that such drugs are used at times, in amounts far in excess of those sanctioned by the B.P.

3. When more attention is paid by medical men to the use of preservatives, obscure conditions, such as indigestion, malaise, faintness, &c., which at present receive no adequate explanation, may be made clear.

C.—THE EVIDENCE OF THE PHYSICIAN AND SURGEON.

1. Was not very conclusive, and it is evident that the question of food preservatives had not, at the time of inquiry, received special consideration by the medical profession.

2. Dr. Anderson had found that daily doses of 10 to 20 grains of boracic acid is generally followed by dyspepsia 'sufficiently pronounced to make life miserable while it lasts, and at times it causes distinct gastritis, with repeated vomiting.'

Sir Lauder Brunton considered that boracic acid was capable of exercising an injurious effect upon pregnant women.

3. On the other hand, an assistant physician at the London hospital described extended experiments as to the effects of borax and boracic acid upon himself, which resulted in 'no sort of stomach irritation or intestinal irritation or trouble, or anything of that sort at all.'

The consulting surgeon to Westminster hospital had administered borax to hundreds of patients in doses of 10 grains, 3 times a day, and up to 40 grains a day, and never found any evil or unpleasant effects, except in those patients who having kidney disease could not void the drug readily.

4. In so far, however, as expression of opinion went, the profession was almost unanimous in its condemnation of the present unrestricted use of preservatives. The medical profession was clearly impressd with the importance of at least intimating by a system of labelling, the nature, and when practicable, the amount of the preservative used. In the opinion of Sir Lauder Brunton and other witnesses, it is a serious matter that a medical man should prescribe a daily dose of any drug to a patient who may, unknown to himself and the physician, be consuming an indefinite quantity of the same drug in his food. He also pointed out that by the indiscriminate employment of drugs there was a possible danger that the action of certain drugs might be, if not entirely nullified, at least reduced in effect.

5. There was, however, another aspect of the question to which certain witnesses referred. They were of opinion that there are certain conditions of the human economy in which the administration of drugs, such as boracic acid and salicylic acid, are held to be contra-indicated. Among such conditions, specific reference was made to inflammatory states of the digestives tract, and of the reproductive organs.

D.—EVIDENCE OF THE PHYSIOLOGIST AND THE PHARMACOLOGIST.

1. All these witnesses strongly deprected the unregulated use of preservatives, at least those at present known, and of any colouring matter having a possible deleterious effect upon the human system; and were generally agreed that formic aldehyde was a dangerous substance, even in very dilute solution.

2. An opinion inimical to the use of preservatives was also held by some of these witnesses on the ground that these substances were added to food for the purpose of destroying or preventing the development therein of living organisms, and hence that these same substances when introduced into the highly organized animal, could not behave indifferently to living matter, but must also tend to exert upon it some influence. Especially, they maintained, was this the case since the secretion of the digestive juices was dependent upon the activity of cells not differing sufficiently from micro-organisms to render it probable that substances affecting deleteriously the one would be indifferent to the other.

3. Other objections offered by the physiologists applied especially to one preservative, viz., formalin, and were based upon the fact that this substance actually enters into combination with the proteid constituents of the food, the compound formed being less digestible than the original substance, thereby entailing a nutritive loss to the consumer.

4. Other witnesses testified to the value of chemical preservatives in protecting consumers from the evils of tainted or decomposing food. One witness said that in his opinion the use of preservatives, even in milk, under certain conditions, was in the public interest.

5. Dr. Attfield found, from experiments upon himself, that pharmacopœial doses of boric acid taken with his meals, had no appreciable action upon the digestion of his food. He found also that salicylic acid didn't interfere with digestion.

6. Experiments on digestion in glass vessels were concerned with formic aldehyde, borax and boracic acid. Speaking generally, the results of these experiments may be regarded as showing that each of these substances had a retarding effect upon certain digestions; this amounting in the case of strong solutions of formaldehyde, to marked inhibition.

7. Experiments on animals (kittens) gave contradictory results.

8. The evidence was contradictory as to the harmfulness of copper 'greening' in peas and other vegetables.

The general conclusions of the committee are contained in the paragraphs numbered 103 to 135 of the report to Parliament, and are exceedingly interesting and important.

Upon these conclusions are based the following recommendations:—

RECOMMENDATIONS.

(*a.*) That the use of formaldehyde or formalin, or preparations thereof, in foods or drinks, be absolutely prohibited, and that salicylic acid be not used in a greater proportion than 1 grain per pint in liquid food, and 1 grain per pound in solid food. Its presence in all cases to be declared.

(*b.*)That the use of any preservative or colouring matter whatever in milk offered for sale in the United Kingdom be constituted an offence under the Sale of Food and Drugs Acts.

(*c.*) That the only preservative which it shall be lawful to use in cream be boric acid, or mixtures of boric acid and borax, and in amount not exceeding 0·25 per cent expressed as boric acid. The amount of such preservative to be notified by a label upon the vessel.

(*d.*) That the only preservative permitted to be used in butter and margarine be boric acid or mixtures of boric acid and borax, to be used in proportions not exceeding 0·5 per cent, expressed as boric acid.

(*e.*) That in the case of all dietetic preparations intended for the use of invalids or infants, chemical preservatives of all kinds be prohibited.

(*f.*) That the use of copper salts in the so-called 'greening' of preserved fruits be prohibited.

(*g.*) That means be provided either by the establishment of a separate court of reference or by the imposition of more direct obligation on the local government board to exercise supervision over the use of preservatives and colouring matter in foods, and to prepare schedules of such as may be considered inimical to the public health.

Dr. Tunnicliffe, while agreeing on all other points, took exception to the prohibition of the use of copper in colouring vegetables, holding that in a proportion not exceeding half a grain of metallic copper per pound the presence of copper is quite harmless.

The evidence heard before the committee was concluded May 14, 1900, and it may be safely regarded as a full statement of the case to that date.

In the abstracts which follow I have sought to give an account of work done upon this subject since the date mentioned, and, in a few cases, to do this for important work which was not brought to the notice of the committee.

BORAX AND BORACIC ACID.

The antiseptic property of boric acid was noted by Jacquez in 1856, and he employed it in preserving the bodies of rabbits by immersion in a 5 per cent solution. Its use as a food preservative did not become general until about 1880, since which time it has steadily increased.

From 'A Second Treatise on the Effects of Borax and Boracic Acid on the Human System,' by Dr. O. Liebreich (published by T. A A. Churchill, London, in 1902) we learn: (1) The first boron preservative for meat and milk in Germany was the so-called 'Aseptine,' 1870. There are now (1902) a large number of boron preservatives on the German market. (2) Boron preservatives were known in Belgium as early as 1867, and a 'Milk Extract,' containing borax, existed as early as 1861. (3) Hager even asserts that the preservative quality of borax for milk is 'an old and well-known fact.'

The great international discussion which has arisen over the use of boric acid and its salts as preservatives for food seems to have been inaugurated by a treatise written by Dr. Oscar Liebreich, of Berlin University, and first privately printed in 1899. A translation of this paper has been published in England by Messrs. Churchill, under the title, 'Effects of Borax and Boracic Acid.' Dr. Liebreich holds that borax and boracic acid, as used for preserving foodstuffs, and especially meat foods, are practically harmless.

In a later publication ('Second Treatise on the Effects of Borax and Boric Acid on the Human System,' 1902: J. & A. Churchill, London), Dr. Liebreich hints at the conditions under which he was led to make a special study of borax. 'My first investigation into the use of borax and boracic acid as a food preservative was made at the instigation of Professor Virchow. The question arose whether fish caught in deep-sea fishing and preserved with borax and boric acid was injurious to health. I was able without the further proofs being published—since the innocuousness of the substance was already generally known at that time—to give my opinion that the fish might be eaten without hesitation, and this was acted on very freely during eight to fourteen days.'

The opinion seems to have been given off-hand, in Dr. Liebreich's capacity as *Medizinalrat,* and to have been based upon then known physiological properties of borax and boric acid. Dr. Liebriech adds: 'Subsequetly representatives of the chemical industry desired me to express an opinion. I undertook to comply with this request, since the question was also of extensive scientific interest, on condition that any unfavourable data which might be contained in my report should be published equally with the favourable results. I may further remark that the chemical industry did not require an expert's opinion with the object of trying, under any circumstances, to maintain the right of refining borax for food preservative purposes, but in order to decide whether the manufacture and sale of boron compounds might be continued without injury to the consumers.'

This very candid and satisfying explanation of the conditions under which Dr. Liebriech took up the study of borax and pursued such study, I have thought right to quote in his own words, because his conclusions form by much the most important element in justification of the world-wide use of boron compounds in food; and, further, because Dr. Liebreich's work is the first important contribution to the scientific study of boron compounds as preservatives, but must not be understood as a final deliverance on the subject. The matter was first brought to Dr. Liebreich's notice professionally; and his professional utterance as to the harmlessness of borax in curing fish, led to his being retained by the 'chemical industry.' For this industry he carried out elaborate and painstaking investigation, which appears to have partaken of combined professional and scientific characters. The professor did not hold a brief for his clients, but insisted that unfavourable data found by him should be published equally with favourable data.

In the second treatise, a pamphlet of 87 pages, Dr. Liebreich first occupies himself with criticising certain statements of Dr. Robinson, made in 'Public Health,' August, 1899, and ascribing to boric acid the illness of five people who had eaten 'blanc-

mange,' made with borated milk. Five out of nine fowls fed with the same 'blanc-mange' died. Dr. Kister (Zeits, für Hygiène u. Infektions-Krankheiten, 1901—229) repeated borax experiments on fowls; and although he concludes that Dr. Robinson was too hasty in ascribing the illness to borax, he adds: 'After the result of the experiments, I cannot but be of the opinion that boric acid, even when not taken in immoderately large doses, may have an injurious effect on healthy adults when continually used. I am justified in this conclusion by the discovery of albumen in the urine of two healthy persons after they had taken boracic acid several times.'

After some criticism of Dr. Kister's work and report, and very full description of work carried out by himself on rabbits, Dr. Liebreich concludes: 'From these experiments on animals may be deduced that borax is entirely innocuous as regards the functions of the kidneys.' He further administered borax to patients, and says: 'The above named investigations offer a further proof that borax and boric acid are substances which cause no injury to health when judiciously used.'

Meantime (February 18, 1902) boric acid and its salts were added to the list of articles forbidden to be used in foods under the German law of June, 1900. In an appendix to the second treatise, Dr. Liebreich criticises the technical argument which was held to justify the proscription of boric acid and its salts. The character of the argument in question may be gathered from the following excerpts, which are taken from the Zeit, fur Untersuch der. Nahr., and Genussmittel, 1902, 678-682 (through 'Analyst,' 1902, 271).

E. Rost 'As the antiseptic action of boric acid is small, comparatively large quantities are necessary to preserve articles of food, and it is quite possible for a person to take as much as 3 grammes daily in his ordinary food. Meats, sausages, milk, butter, margarine, white and yolk of egg, fish, caviare, shellfish, &c., are frequently preserved by the action of boric acid. The author found 3·87 per cent in dry salt meat and 2·8 per cent in shrimps. Boron compounds are stated to have no specific action on the enzymes of the stomach and intestines, except as regards their acid or alkaline properties. Borax retards to a small extent the coagulation of milk by rennet; the addition of borax to milk, especially when the latter is intented for infant's food, is therefore injurious. Large doses were found to cause local irritation and inflammation in dogs, cats and rabbits, and also affected the action of the bowels. In two experiments on men it was found that doses of 1, 2 and 3 grammes of boric acid retarded the assimilation of albuminoids, the nitrogen contents of their urine being determined hourly before and after taking the boric acid. By taking the temperature of various dogs fed on borated meat, it was demonstrated that assimilation of the food was delayed. Experiments on other dogs showed that only large doses caused a loss of corpuscular albuminoids. It may be here mentioned that no essential difference was noticed between the action of boric acid and borax. A striking loss of weight in the animals was noticed. As this was not due to destruction of albumen or loss of water, it must be put down to oxidation of fat. Apparent increase in the digestion of albumen, shown when very large doses of borax were given, was due to the 'salt' action of the borax, similar results being exhibited by large doses of common salt and potassium nitrate. A large consumption of water prevented these effects.

'Assimilation experiments in the presence of boric acid were carried out on four assistants. During a preliminary period of 5 to 17 days the men were brought into a state of 'nitrogen equilibrium' followed by administration of boric acid (3 grammes per diem) for 12 days. Two of the men then, for a time received no boric acid, and afterwards underwent a second treatment. Finally, some days were devoted to studying the after symptoms of thte expirement. Two of the men showed a loss of weight due to loss of fat. The final observations also showed less secretion of urine and absorption of food materials. The two other assistants also showed a loss of weight. These two latter were also chosen for Rubner's experiments (see below) in which the amounts of expired carbon dioxide and water were determined. One of them diminished so suddenly in weight after taking 3 grammes of boric acid daily, that the experiment had to be discontinued. The weight of the other also decreased, but increased when the boric acid was discontinued, and fell again when the latter was readministered. It was not

demonstrated by the above experiments that boric acid affected the appetite. No influence upon health and appetite were noticeable. Boric acid was not found by the author to influence the temperature, blood pressure or kidneys. As the elimination of boric acid by the urine takes from 8 to 14 days, its action is probably cumulative. The author comes to the conclusion that the use of boron compound in food should be forbidden.'

Rubner.—According to the author, who comes to the conclusion after numerous experiments, boric acid has an important latent action on the digestive process. Not only the digestive organs themselves, but the whole alimentation is affected. The change produced, which may amount to a loss of 22 per cent energy and 30 per cent of the utilization of nitrogen free food, is a very important fact, and undoubtedly means injury to health, as the amount of fat in the body may be of the greatest importance, and the reduction of the fat must be followed by a rapid fall in albuminoids. Serious results may follow in infant feeding, to invalids, old people or convalescents by borated foods.

R. O. Neumann.—The experiments carried out by the writer on himself consisted of a preliminary period of 4 days, during which various observations were taken; then 10 days with daily doses of 3 grammes of borax, followed by 4 days without borax, and concluding with daily doses of 5 grammes of borax for 3 days. During the first period nitrogen equilibrium existed; the secretion of nitrogen decreased during the first borax treatment, also in the intermediate 4 days, but was not further diminished by the larger doses of borax. His weight fell 1,200 grammes in seven days of the borax period. The flow of urine was somewhat increased, and boric acid could be detected for 18 days after the last dose of borax had been taken.

A. Heffter made four series of experiments on himself, alternately fasting for 18 to 20 hours, and then feeding on milk and eggs for 48 hours. In two of the series he used food without borax, in the other two he used 1 and 4 grammes borax daily. The boric acid was found to increase the solids and nitrogen in the excreta, probably due to the diminished absorption of albuminoids as a result of the injurious effect of the boric acid on the mucous membrane of the intestines. The conclusion is that boric acid is not without objection when used as a preservative.

G. Sontag found by experiment that 3-gramme doses of boric acid required 5, 8 and 9 days, respectively, for elimination by the urine, in the cases of three healthy individuals.

E. Polenski showed experimentally that flesh and smoked hams, when packed in borax, dry, for periods of three and four weeks, absorbed into the interior of the ham quantities of borax varying from 0·076 to 4·05 per cent.

Dr. Liebreich criticises with something of the attitude of special pleading, most of the evidence brought forward by the scientific men above quoted, and, although Dr. Rost says: 'A decreasing effect on the assimilation of albuminous food in the intestine is peculiar to boron compounds, showing itself with even small quantities (0·5 grammes)' Dr. Liebreich concludes: 'Every day of the diet without boric acid, the condition of absorption in the intestine became worse, in consequence of unsuitable food, and according to these (Dr. Rost's) experiments, boric acid produces a favourable effect on the absorbing capacity of the intestine.' I don't know of a better example of the proverbial disagreement of doctors than this. Again, in contradiction to a statement by Dr. Rosé—that borax caused inflammation of the mucous membrane—Dr. Leibreich asserts: 'Boron preparation are not only comparatively but *absolutely* harmless to the mucous membrane.'

A critical essay on the subject of 'The Preservation and Colouring of Meat Produce,' was published in Berlin, 1901, by Dr. George Lebbin, chemist to the Royal Prussian Ministry of War, and contains an introductory preface by Dr. Liebreich. This essay contains nothing original and may be fairly described as a setting forth of the subject-matter in the interest of the trade. That the trade recognizes this fact is shown by the republication of portions of Dr. Lebbin's essay in the form of a flyleaf, in translation form 'Die Medicinische Woche,' of September 23, 1901. In the course of his paper Dr. Lebbin states, 'Although I consider that the above experi-

ments (Pfeiffer's) have already settled the question in favour of the meat dealers, I have, nevertheless, begun experiments which are being carried out with meat prepared in the usual way and with the normal doses. For this purpose I have secured the co-operation of a medical man as well as of an official meat expert.' I have not, up to this time, obtained any account of the experiments referred to.

A very full account of Dr. Liebreich's work has been written for 'American Medicine,' March 15, 1902, by Drs. Vaughan and Veenboer of the University of Michigan; these authors refer to other authorities favourable to the use of boron compounds. This paper has been reprinted and widely distributed in the interest of the trade.

H. Leffman (Journ. Franklin Institute, 1899, 97. Through 'The Analyst,' 1899, 102.

From the results of a large number of experiments on the artificial digestion of arrowfoot starch, the author concludes that 'beta-naphthol is injurious to malt-diastase, but does not seriously affect the starch-converting capacity of taka-diastase or pancreatic extract. Boric acid, borax and boroglyceride, infere but little with either starch or proteid digestion. Salicylic acid interferes with the action of most of the enzymes, especially those that convert starch, but does not seriously affect proteid digestion. Sodium benzoate has no appreciably injurious influence on any of the enzymes. Sodium fluoride interferes but little with the digestion of starch, but sodium silico-fluoride has a considerable influence on pancreatic extract.

In his opinion, if the use of any preservative is to be permitted in food, boric acid and sodium benzoate are the least objectionable since they appear to have less tendency to disturb the digestive functions than the other preservatives commonly employed.

The following medical testimony regarding the use of milk containing preservatives was given in a case brought before the English courts, and is reported from the British Food Journal, 1901, p. 110.

Dr. Charles Jackson, medical officer of health for Fulham, 'had seen cases where children using milk containing boracic acid, exhibited serious digestive disturbances.'

Dr. L. B. Diplock said, 'four years ago he attended a large number of children suffering from marasmus, and on testing the milk with which they were fed, he found in each case that it contained boracic acid. Upon the infant being fed on pure milk direct from the cow, they recovered without the aid of any medicine, yet before he discovered the cause of the symptoms several of the infants died.'

A collection of medical and scientific data favourable to the use of boron preservatives is published by Perkins, Bacon & Co., London. It is undated, and without any signed editorial introduction. It seems reasonable to infer that this pamphlet is issued by persons interested in the use of borax and boracic acid. It includes statements by Dr. Redwood, Dr. Chittenden, de Cyon, Bussy, Gavarret, Wurtz, Dr. Bell and others.

By far the most important contribution to the subject of boron preservatives which has been made since 1902, is Dr. W. M. Wiley's account of actual feeding experiments, carried out under strict scientific supervision at Washington in 1902 and 1903. The detailed account of this investigation is contained in Bull. 84, part 1 of the Bureau of Chemistry. It forms a volume of 477 pages, and bears evidence throughout of the extreme care with which the research was prosecuted. At the time of its inauguration, my friend, Dr. W. D. Bigelow, wrote me as follows:—

'The experiment is being undertaken very seriously and on a somewhat extensive scale. In fact, we consider it the most important inquiry we shall have on hand this year. About a dozen men, almost all from the Department of Agriculture, have volunteered, and will be divided into two equal lots, one of which will eat preserved food, while the other will receive only food that is known to be pure. The conditions will be controlled as carefully as possible, and the presence of nitrogen, phosphoric acid, and energy expressed as heat of combustion, will be determined. The preservative used will be determined in the food, as well as in the excrement and urine, and careful observations will be made daily regarding the physical conditions of the men. A 'clinical

sheet' will be kept for each man. The work will be very similar to that recently conducted by the Imperial Health Office at Berlin, but will be more extensive, and will also differ from it in the fact that we shall employ largely young men of scientific training instead of labourers. We are just entering upon this work now. The first table will be started the beginning of next week, and the analytical work will begin early in December.'

The investigation, as reported in June, 1904, dealt solely with boron preservatives. It would be futile to attempt any extended sketch of the methods and progress of the experiment. The following sentences sum up Dr. Wiley's conclusions:—'On the whole, the results show that one-half gram per day is too much for the normal man to receive regularly. On the other hand, it is evident that the normal man can receive one-half gram per day of boric acid, or of borax expressed in terms of boric acid, for a limited period of time, without much danger of impairment of health. * * * 'It appears, therefore, that both boric acid and borax, when continuously administered in small doses for a long period, or when given in large quantities for a short period, create disturbances of appetite, of digestion and of health.'

Critical notices of Dr. Wiley's work will be found in the Chemiker Zeitung, 1905—194 (Breicht über die Wileysche Arbeit, A. Kraus); and 1906, 10 Jan.—(Versuche über den Einflurs von Borsäure und Borax auf den Menschlichen Organismne,—Dr. L. Spiegel).

Leo. Goldsmith (thesis for B. Sc. degree. Abstract of Prof. Mayberry in Jour. Am. Ch. Soc., 1897, p. 889) made several series of experiments on the digestion of blood fibrin in presence of alum, boric acid and formalin. The results are summarized as follows:—'While all the substances tested show some influence on the digestive action of pepsin, only alum exhibits a marked effect.'

Ch. Harrington (Am. Jour. of the Medical Sciences, Sept., 1904—Through Zeit. f. Untersuch der Nahr und Genussmittel—1905.) Seven cats were fed, from 442 to 133 days, with similar food, containing doses of 0·544 to 0·857 gms. borax. One cat died. In all the kidneys were affected, least so in the animal which got least borax. Deterioration of the epithelial lining of the tubuli uriniferi and increase of fat (fatty degeneration) were observed. Some of the tubuli were filled with epithelial cylinders.

Bassenge (Zeit, Exper. Pathol und Therap. 1905, 113) found that 2 per cent of boracic acid did not hinder the development of pathogenic bacteria in flesh.

Rost, B. (Arch, internat. Pharmacodyn, Therap., 1905, 291), concludes a very exhaustive series of experiments regarding the excretion of boric acid in the words:—'Practically the whole of the injested boric acid is eliminated by the kidneys.'

Liebreich (Therap, Monatsh, 1904-416) finds that a certain amount of boric acid is got rid of through the skin, and quotes Wiley to the same effect.

There is, however, no room to doubt that the statements of Rost, as to elimination of boric acid, are essentially correct. The chief portion, in most cases, nearly the whole of the boric acid is eliminated by the kidneys.

Dr. Von Ramner (Zeits. f. Untersuch. Nahr, & Genussm., 1905, 405) points out the difficulty of carrying out the German law regarding boric acid in meat products, in face of the strong convictions of experts who believe it to be harmless. He also demonstrates the impossibility of carrying out the law in its prohibition of alkaline earth hydroxides and carbonates.

Formaldehyde.

This preservative is specially condemned by the English Parliamentary Commission of 1900. It is, therefore, scarcely necessary to consider it as a competitor for public approval. The following work done on it may, however, be put on record.

Waldemar Koch (Am. Jour. Physiol., 325). The action of formaldehyde does not depend on active oxygen. Yeast made to grow anærobically is killed by it in 0·05 per cent solutions, but in 0·005 per cent solutions is unaffected. In cases of tryptic digestion, where the presence of formaldehyde has been observed to interfere with digestion, the reason may be discovered in the fact that the formaldehyde acts upon the proteids and renders them indigestible.

A. Trillat (Comptes Rendus de Chimie, 1904—720) shows that formalin hinders the digestibility of milk, and that it remains as formaldehyde in milk, so long as the milk remains unaltered.

A new method of using formaldehyde has been patented in France (Pat. 342769) by Budde (Jour. Soc. Chem., Indust., 1904—947). This consists in sterilizing the food with a 0·005 per cent solution of formaldehyde, and then treating with a 0·025 per cent solution of hydrogen peroxide. It is claimed that, in this way, fish, milk and meat can be sterilized without heat, and their characteristic flavours preserved.

A. Fölsing—Eng. Patent, 13689, 1904 (Jour. Soc. Ch. Indust., 1904—878)—has been granted a patent for the use of tri-oxymethylene as a preservative for meat, fish, butter, jams, &c., used either as a powder or in solution. Oxymethylene in solution would be nothing else than formaldehyde, and in the solid state it is a polymer of formaldehyde, so that this patent must be regarded as merely an attempt to use formaldehyde under a new name.

The same remark may be made regarding a recommendation of G. Marpmann, (Chem. Centralb, 1904, I 687) to the effect that 0·5 per cent to 1·0 per cent of Hexamethylenetetramine is an efficient and harmless preservative for milk. This substance is a derivative of formaldehyde, sometimes used as a drug under the name *formin*.

F. Mallman (Zeit. für offentl. ch. 10-165), describes a new preservative sold under the name 'Sterilisol' which consists essentially of formaldehyde and common salt.

Karl Aschoff (op. cit,—10-181) shows that a 2 per cent solution of di-thionate of soda is sold under the same name.

The efficiency and convenience of formaldehyde as a preservative are so well recognized that it need not surprise us if it continue to be usd, specially for milk and non-alcoholic or weakly alcoholic liquors.

The question arises, may the use of formalin as a disinfectant and cleanser be permitted ? I know of milk companies who use formalin in rinsing out the tin cans which are sent out to bring the farm milks. These cans are all thoroughly washed, scrubbed and scalded, but it is claimed that in spite of these precautions, a stale odour remains and taints the fresh milk. To prevent this the cans are sent out with a small quantity of a solution of formalin in them. This, the farmers are instructed to throw out before filling them with new milk. Of course there is a strong temptation, especially in warm weather, to ignore such instructions. It would be of considerable interest to obtain a general expression of opinion among dairymen on this subject.

Ernst Löwenstein.—Zeit. für Hygg.—48-238, through Chem. Centralb.—1905-893.

Formalin solutions, of such strength as are used for milk preservation, cause the milk to be so altered as not to react with rennet. The degree of change is dependent rather on the time during which the formalin acts, than upon its amount. Gaseous formaldehyde acts more energetically in this way than do solutions.

Liebreich (Therap. Monatsh., 1904-59) considers the question of using formalin as recommended by V. Behering, for the 8-day preservation of unboiled milk, in proportion of 1·5000. He contends that experiments in which large amounts of formaldehyde are used, prove nothing as regards the healthfulness of formaldehyde, in minute amount as recommended by V. Behring. The former employ the *disinfectant power* of the reagent, while the latter make use of its *restraining* power (Erhaltende Kraft.) Dr. Liebrich holds that the prohibition of formalin in meat does not make its use in milk illegal.

Chester & Brown (Bull. 71—Del. Agr. Expt. Ston.) conclude, as the result of extended experiment, that the addition of formaldehyde to milk in amount not exceeding 1 part in 40,000 and the holding of the milk at temperatures between 60° and 70° Fah. will improve its sanitary quality by preventing rapid and objectionable fermentations, and there is no reason to believe that in this proportion any marked injury could result to the person consuming it.

Bassenge (Zeit. Exper. Pathol. und Therap. 1905, 113) found that 2 per cent of dish 320 mgr. of formaldehyde. Sugar gave 700 mgr, per kilog. and in presence of

Thus, 1 kilog. of fire wood, burned in glass gave 27, in copper 1,800, and in ordinary dish 320 mgr. of formaldehyde. Sugar gave 700 mgr. per kilog, and in presence of copper gauze 5,760 mgr. Smoke was shown to have a germicidal effect on various kind of bacteria. The use of smoke for preserving meats was shown to be dependent on formaldehyde, together with creosote, &c.

Salicylic Acid.

(The following note is taken from Year Book, Department of Agriculture, at Washington, p. 557):—

'In 1874 Kolbe was led, by the readiness with which salicylic acid is converted into carbolic acid, to investigate the antiseptic properties of the former. The perfection of Kolbe's method of manufacturing salicylic acid greatly cheapened the product, and led to vigorous efforts to extend its use. During the first three or four years immediately following the discovery of its antiseptic properties, and before its physiological action was understood, a number of prominent chemists warmly advocated it as a food preservative. It gained in favour at first, and its use increased rapidly till 1880. In that year 110,000 pounds were used in France for the preservation of food.

Since 1880, the mass of evidence resulting from physiological studies with salicylic acid, tends to condemn the addition of this substance to foods under all circumstances. It is possible that the majority of persons in sound health may suffer no evident injury from small amounts of salicylic acid, but its use by aged and infirm persons is attended with great danger. Many European countries prohibit the addition of salicylic acid to foods. At the present time it is chiefly used to preserve fruit and vegetable products.

Speaking of salicylic acid Dr. Wiley says (evidence before Committee of H. of R. in February, 1906): 'There has been a general consensus of opinion throughout the world that salicylic acid is a very harmful substance, and this prejudice is perhaps greater than against any other material employed for preserving purposes. That salicylic acid should be singled out especially for condemnation among preservatives does not seem to be warranted by the data which have just been presented and discussed. That it is a harmful substance seems to be well established by the data taken as a whole. It is, however, a harmful substance of very minute virulence.'

Sulphurus Acid and Sulphites.

A very compendious study of sulphurous acid and its salts as food preservatives has been published by Dr. C. E. Calm, of Chicago, in pamphlet form in 1904. It is made specially valuable by containing a good bibliography of the subject.

After citation of numerous authorities, Dr. Calm sums up the case for this preservative as follows:—

1. Sodium sulphite is prescribed by the United States Dispensatory and medical text books.

2. Sulphurous acid compounds exist naturally in foodstuffs, for example, in meats, &c.

3. Sulphurous acid or the sulphites are extensively employed in nearly all articles of food.

4. Sodium sulphite acts as a meat preservative (1) by inhibiting to a certain extent the growth of bacteria, and (2) by maintaining the natural colour of fresh meat.

5. Spectroscopic analysis proves that sodium sulphite causes the formation of oxyhæmoglobin, to which the red colour of sulphite treated meat is due.

6. Sodium sulphite acts as a preservative only when it is added to strictly fresh meat, and has no effect when the meat is even slightly tainted and the hæmoglobin begins to be broken down.

7. The sulphites by their nature prohibit an abuse, since an excessive amount produces an unnatural colour, and renders the meat unpalatable.

8. All experiments made thus far on animals to determine the toxic effects of the sulphites have failed to represent existing conditions, since excessive doses of the sulphites have been given over long periods of time.

9. Seventy-six per cent to 96 per cent of the sulphite used on meat as a preservative becomes oxidized to sulphate before the meat is ready for consumption.

10. No case is on record in which it was proved that sodium sulphite as used in foods was injurious to health.

Without in the least impugning the good faith of Dr. Calm, we cannot shut our eyes to the fact that he holds a brief for the trade, being himself a manufacturer of these preservatives. In illustration of the natural bias involved in such connection, I may quote the deliverance of the English Parliamentary Committee on this subject, italicising the portion of this deliverance which Dr. Calm has quoted (page 30):—

'Concerning the physiological effects of the sulphites, a preservation often used by butchers, poultry dealers and brewers, there has been no evidence laid before this committee. *It appears, however, that when sulphurous acid or its salts are added to organic compounds such as beer or butchers' meat, some is at once oxidized to sulphate, which may be regarded at any rate in the amount present as indifferent; some attaches itself chemically to certain constituents of the food in question and the compound formed is also innocuous;* a third portion remains as sulphurous acid, and it is this portion alone which is of permanent efficacy as an antiseptic. Concerning the effect of this moiety upon the consumer pharmacologists do not seem agreed, and further investigation is required before the sulphites can be regarded as either harmful or harmless.'

It will be noted that Dr. Calm only quotes that part of the finding of the committee which seems to bear out his own contention, and omits the limiting clause, which, for the consumer, contains what is, by far, the most important feature of the committee's declaration.

Another point—which I would fain ascribe to a printer's error—must not be overlooked. Instead of writing, 'some is at once oxidized to sulphate, which, &c.' Dr. Calm writes, 'same is at once oxidized to sulphates, which, &c.' It is apparent that the very slight verbal change puts a quite different meaning on the phrase; a meaning which, however, any careful reader would see to be unwarranted by the context—since the word 'some' after the semi-colon demands its correlative.

I am not aware of any important research work on sulphites since 1901 (the date of the Parliamentary Report) which would warrant us in finding a positive safety in their use as preservatives; and I think that the question of the harmfulness or the harmlessness of their use must remain open for the present.

Lebbin and Kallman (Zeits. offentb. Chem. 1901, 324)—From numerous experiments carried out on animals and on human beings, the authors have come to the conclusion that our present notions as to the toxicity of normal sulphites are wholly erroneous. With acid sulphites, however, the action is quite different, for most of them are as corrosive as free acids.

In Dr. Lebbin's pamphlet, already quoted under Boron Compounds, he takes up the matter of sulphites, specially criticising the experimental work and conclusions of Pfeiffer; and he holds that the very experiments which led Pfeiffer to regard sulphites as dangerous to health, are capable of such interpretation as 'settles the question in favour of the meat dealers.' It is, however, abundantly evident that in this pamphlet Dr. Lebbin is a champion of the trade, and not an investigator.

H. Schmidt (Ch. Centralb, 1904, II, 59), asserts that sulphurous acid in dried fruits exists in combination with aldehyde and ketone bodies, and with glucose. The sulphurous acid disappears gradually on long storage of the fruits, with access of air. On cooking the fruit, the sulphurous acid rapidly disappears and the more completely in proportion to the quantity of water used.

A. Beythien (Zeits. für Untersuch, Nohr und Gennssm, 8-36) considers the question of use of sulphurous acid as a preservative in wine, hops, beer, flesh, fruit and vegetables. He criticises an opinion of Hofman, and thinks that the use of the acid in dessicated fruits should be challenged.

Sulphurous acid has been reported in dried fruits, chiefly American, by Beythien and Bohrisch (Zeit für Untersuch, der Nah, und Genussmittel, 1902, 401)—Californian apricots contained from 0·216 to 1·158 per cent, (calculated as crystallized sodium sulphite) peaches, 0·992 per cent, pears, 0·2399 per cent—Italian prunes contained 0·264 per cent.

W. Kerp (Ch. Centralb, 1904, II, 56) as the result of a critical study of the analyses of 1,071 wines from different countries, reports as follows:—

42·95	per cent	contained	SO_2	per litre up to 50	mgr.
34·18	"	"	"	51 to 100	"
14·00	"	"	"	101 to 150	"
5·88	"	"	"	151 to 200	"
2·99	"	"	"	over 200	"

The highest quantity found was 466 milligrammes, SO_2 per litre.

Ch. Harrington (Boston Med. and Surg. Journal, 1904, 21, 555, through Zeits. f. Untersuch, d. Nahr und Gunnssm, 1905, 300).—Fed five cats for 20 weeks with meat preserved with ·2 per cent of sodium sulphite. All organs were found normal at the end of the period, except the kidneys, which showed very decided deterioration in every case.

W. D. Bigelow (Year Book, Department of Agriculture, Washington, 1900, p. 556).—'In all wine producing countries, except America, the amount of sulphurous acid employed in treatment of wine is limited by law to one or two parts in 10,000 parts of wine (from 1·5 to 3 grains per quart). In this connection it must be remembered that the sulphurous acid content of the wine is largely combined as aldehyde sulphurous acid. Free and sulphite sulphurous acid are only permitted in European wines, in one-tenth the amount given above. The compound is recognized as directly toxic, and a larger proportion than that mentioned is universally recolgnized as injurious. The sale of beer containing sulphurous acid or sulphide is specially prohibited in almost all civilized countries.

Holley (Journ. Am. Chem. Soc., 1906, 994) finds, as the results of work upon a large number of samples of sausage meats and dried fruits, the following:—

1. The amount of sulphites mixed with meats to preserve them is much larger than is generally supposed.

2. The amount of sulphites recovered in analysis is about one-fourth of that originally present.

3. Cooking sausage meat does not convert the sulphites into sulphates, as claimed.

4. With dried fruits, which have been bleached with sulphurous acid, the amount remaining unoxidized in the fruit is large.

Benzoic Acid and Benzoates.

A. Weitzel (Analyst, 1902, 271) shows that benzoate of soda, along with other alkaline salts, retards the coagulation of milk by rennet.

H. Leffman (Analyst, 1899, 102) finds that sodium benzoate has no appreciable injurious influence on any of the enzymes.

There appears to have been very little research work done, touching the nature of physiological effects of benzoic acid and its salts in food. These substances are, at the present day, very extensively in use; and that this should be the case, without first establishing their harmlessness to health, is a violation of what should be a fundamental principle.

In his evidence given before a committee of the House of Representatives, in February of this year, Dr. Wiley refers to conclusions reached as the result of a practical feeding test, extending over three or four months, with twelve young men, whose food was treated with benzoic acid. 'The most pronounced symptoms during the preservative period were burning sensations in throat and esophagus, pains in stomach, some dizziness, bad taste, and when the limit of endurance was reached the subject suddenly became nauseated and ill. In all cases but one there was a material loss of weight. And that this bad effect was continued during the after period shows the persistance of the after effect. Only two of the members of the class immediately showed an increase in health after the suspension of the preservative.'

Hydrogen Peroxide.

Probably the newest suggestion for a preservative for milk is that of Jablin Gonnet—(Ann. Chim. Analyt., 1901, 129—through the Journ. Soc. Chem. Indust., 1902,

420) who states that '1 c.c. of a 12 per cent solution of hydrogen peroxide added to one litre of milk, prevented spoiling for two days; 2 c.c. for four days and 6 c.c. for six days, at a temperature of 20° C.=68° F. The hydrogen peroxide cannot be tasted in the milk, and according to a series of physiological experiments, is harmless to the human system.'

A. Renaud (Moniteur Scientifique, 1904, 39—Abstract Jour. Soc. Chem. Indust., 1904, 74), recommends this substance as a preservative for milk.

H. Frings, Jr.—(French Pat. 338,333, 1903), obtained a patent for the use of hydrogen peroxide as hindering the development of mycelium and schizomycetes, while not prohibiting the development of saccharomycetes. He also suggests the addition of substances, like peroxides, which are capable of producing hydrogen peroxide when acted on by acids.

A. Schrœder, Berlin (Jour. Soc. Chem. Indust., 1904, 1108) obtained a patent in England in 1904, for the addition of peroxides to foods, and subsequent decomposition of the peroxides (of Ca, Mg or Na.) by carbonic acid, under pressure, or by acid phosphates.

Amberg (Jour. Biol. Chem. I, 219) says: 'While there is some doubt as to whether hydrogen peroxide can bring about a complete sterilization of raw milk in every case, and while the amount of this substance needed for the preservation of milk during a given period of time is uncertain, its harmlessness seems to justify its trial as a milk preservative.'

Budde (Milch—Ztg. 32—No. 44) has asserted that the treatment of milk by 35-100,000 ths. of hydrogen peroxide at a temperature not lower than 40° C. destroys bacterial growth.

P. Gordan (Centralb. fr. Bakter u. Parisitenk II, 13—716 through Chem. Centralb. 1905—551) has examined Budde's work, and finds the development of bacteria very little affected by the treatment recommended. Somewhat larger quantities restrained the development of acidifying bacteria, and three times the quantity stated by Budde destroyed them altogether. 7-10,000 ths. of hydrogen peroxide gave decided taste to the milk, and larger additions gave an itching sensation in the throat. 7-10,000 ths. caused but little reduction of the resting spores, or streptococci; 6 hours at 50° C. with above amount destroys the typhus bacillus, but this temperature will destroy it without peroxide. Budde's experiments are shown to be untrusworthy in other repects.

Among the less known preservatives may be mentioned:—

Saccharin: in regard to which the only work that I have seen is that of—

F. Berlioz (Chem. Zeit. 1900, 416)—The author's experiments confirm the statement of Nencki, that saccharin, at least in small amounts, does not interfere with gastric or pancreatic digestion.

Fluorides:

Otto and Charles W. Hehner (Analyst, 1902, 173) give the results of experiments which show that 'salivary action is prevented by a solution containing 0.04 per cent of sodium fluoride, or its equivalent in ammonium fluoride, and that as little as 0·02 per cent solutions of fluoride greatly interfere with peptic digestion.'

Hydrofluoric Acid: which was patented in France in 1903 (Jour. Soc. Chem. Indust., 1903—756) by Sandmann and Eichelbaum, for preserving fruit juices. 'To 100 litres of the juice add 50 c.c. of a 40 per cent solution of hydrofluoric acid. Before putting the juice on the market the acid may be precipitated by chalk, or neutralized by addition of an alkaline carbonate.'

Chevy (Bull. de Therap. C. IX., 108) finds that hydrofluoric acid in the ratio 1·3000 prevents fermentation in milk, soup and wine.

It may be mentioned that Neuder (Chem. Zeit., 1904, 857) claims priority in the discovery of this substance as a food preservative, and also for the mode of using it, which involves its separation from fluids containing it by precipitation with lime.

G. Heinzelmann (Jour. Soc. Chem. Indust., 1904, 797) calls attention to the fact that since the disallowance of salicylic acid as a preservative for fruit juice in Germany, a solution of hydrofluoric acid has come on the market under the name 'Fruit,'

accompanied by a white powder (chalk) to be added before offering the fruit juice for sale.

The danger, in this case, is quite evident, and the placing of such irritant poison on the market illustrates the recklessness which characterizes the effects of manufacturer under stress of competition.

Carbonic Acid: J. Herzfeld (German Pat. 147,653) obtained a patent in 1902 for the preserving of solid foods by the use of carbonic acid under pressure. The pores of the material are opened by application of suitable temperature, and the gas is then applied under high or lower pressure, as may be necessary. (Chem. Centralb, 1904, L., 334.)

Formic Acid: Otto and Tolmacz (Zeit. für Nahr. and Genussm, 7-78) described new preservative, 'Werderol,' for fruit juice This is essentially a 10 per cent solution of formic acid.

Beta-Naphtol: is a compound of marked toxic properties. Dose for an adult is 3 to 8 grains. As a food preservative it should not be tolerated.

Zirconium Salts.—Quite the newest and entirely up-to-date preservative, has been patented by *A. Müller Jacobs* in the United States (pat. 775066, 1904). This is the immersion of decomposable foodstuffs in a solution of zirconium salts—'these salts possessing radio-active functions.'

U.S. Patents have been granted (April, 1905), to H. Lieber for the impregnation of foods with radio-active emanations from thorium—(J. Soc. Ch. Indust., 1905, 557.)

Ed. Macæay Chase (Jour. Am. Chem. Soc. XXVI. 662) has recently examined some samples of canned sausage of German origin, to which aluminium acetate had been added as a preservative. Two brands were found to contain 60 to 70 and 175 to 200 milligrammes of aluminium respectively per 1 pound tin, the greater part being present in the sausages themselves.

It is claimed that the alumina exists in a condition in which it is insoluble, and hence harmless to the system. Chace carried out experiments to determine the truth of these claims. He found that from 70 to 80 per cent of the alumina was dissolved from these sausages, by action of pepsin, and he holds that this is sufficient to fully condemn the use of the article named as a food preservative.

Jean Ferdinand (Rev, intern. fabricat., 1903, 159) is of opinion that the study of *Fluoride of sodium* as a butter preservative, is deserving of attention. From 10 to 15 grammes per 100 kilog. of butter suffices, and this small quantity would be certainly made insoluble by reaction of lime salts naturally present in drinking water and other foods.

GENERAL.

The subjoined notes, having a general bearing on the subject of food-preservation, may find a place here.

E. Laboride (Jour. Pharm. Chim., 1899, 484. Through the Analyst, 1900, 154).

Small quantities of isobutyl alcohol, glycerol and malic acid favoured peptic digestion; also methyl alcohol in very slight degree; ethyl and propyl alcohols, lactic and tataric acids and mannitol and glucose on the other hand retarded peptic digestion.

With trypsin (pancreatic digestion) methyl and isobutyl alcohols, glycerol and glucose accelerated, while ethyl and propyl alcohols, lactic, malic and tartaric acids and mannitol, retarded the process.

A. Weitzel, the Analyst, 1902, 271.—Experiments on the coagulation of milk by rennet, in presence of various substances, as follows:—Group (1) Alkaline: Borax, sodium hydroxide, sodium carbonate and sodium bi-carbonate. (2) Salts capable of precipitating lime: Sodium oxadate, sodium fluoride and sodium oleate. (3) Other salts having an alkaline reaction: Sodium sulphite, salicylate, benzoate, propionate, acetate and formate. (4) Neutral salts: Sodium chloride, lithium chloride, sodium nitrate, perchlorate, tartrate, sulphate, ammonium sulphate and magnesium sulphate. (5) Acid salts: Sodium hydrogen tartrate, sodium hydrogen sulphate and sodium per-

sulphate. (6) Acids: Boric, carbon dioxide, oxalic, benzoic, salicylic, protocatechuic and gallic. (7) Formaldehyde, saccharin and cane sugar.

The following results were obtained:—

(1) Borax retarded the coagulation when present in only small quantities (0·01 to 0·04 per cent), and the amounts usually employed (1 gramme per litre of milk) stopped the action of the rennet altogether. All other alkaline salts acted similarly.

(2) Coagulation was checked by those salts which precipitated the lime compounds. When the reaction became alkaline, the influence of alkalinity also showed itself.

(3) The neutral salts generally had a retarding action. Some (sodium and lithium chloride), principally in concentrated solution, more feebly when present in small quantities. Magnesium sulphate, in both concentrated and dilute solution, had considerable influence.

(4) Small quantities of the acids aided the coagulation. After carbon dioxide, boric acid had the most feeble action. The acid salts acted in the same manner as the acids.

(5) The action of formaldehyde was so powerful that it must be considered as a direct poison to the rennet enzyme. Saccharin in small quantity had little influence, but stronger solutions greatly hindered the coagulation. Sugar, up to 20 per cent of the weight of the milk, had no action.

Price, T. M. (Centralb. Bakteriol, 1905, 65). Calves of two weeks old were fed for two nine-day periods with preserved milk, parallel experiments with normal milk being carried out.

Digestive of Protein and Fat as compared with Normal Milk.

Treatment of Milk.	Protein.	Fat.	Remarks
Normal milk	Normal.	Normal.	
Formaldehyde, 1 : 10000	0·76	0·96	Per cent excess.
Salicylic acid, 1 : 1000	5·07	3·71	" defect.
Boric acid, 1 : 1000	1·73	0·08	" "
Borax, 1 : 675	1·30	0·02	" "

It will be seen that the formaldehyde treatment did not injuriously affect the digestibility of the milk, while the other treatments did so in marked degree; the salicylic acid being specially harmful. Two calves fed for two months on formaldehyde and boric acid treated milks, continued to increase in weight.

The influence of formaldehyde upon the digestive ferments was studied with the following results:—

Milk was treated with formaldehyde in the proportions given:—

Digestive Action.

Enzymes.	Not Affected.	Disturbed.	Stopped.
Rennet	1 : 2500	1 : 1875	1 : 500
Pepsin	1 : 125	1 : 50	1 : 25
Pancreatin	1 : 2000		1 : 1500
Steapsin (fat digesting ferments)		1 : 50	1 : 35
Ptyalin	1 : 1500		1 : 1250
Amylopsin		1 : 1000	1 : 500

Bouillon cultures of bacillus acidi lactici, B. Subtilis, B. Coli were killed by formaldehyde in six hours by a ratio of 1: 1560, and in 72 hours by a ratio 1: 1870.

The smallest amounts of the following preservatives found effective in preserving milk for 48 hours, were:—

Borax	1 to 675
Boracic acid	1 to 1,000
Salicylic acid	1 to 1,000
Formaldehyde	1 to 20,000

A. CHARRIN (Comptes Rendus d' l'Acadamie des Sci., 139-160) shows that sterilized food is less digestible than natural food, and may give rise to irritation of the intestinal mucous membrane, with all its consequences.

It will, I think, be conceded by any one who reads the subject carefully, that the balance of evidence is decidedly against the use of any preservative in food. At the same time it must be granted that there are degrees of danger to health among the chemical substances which find favour as preservatives among manufacturers, and it may be that, in certain cases, less harm may result from the preservative than would result from deterioration of the foodstuffs, were this kept for a length of time without an antiseptic. In order to decide the question as to whether, in certain cases, such as long voyages, travelling in out-of-the-way regions, supplying stores to soldiers on the march, mining camps, &c., as well as in the distribution of foodstuffs, to the great centres of population, far removed from the places where such foods are produced, it might not be preferable to employ chemical preservatives rather than consume food which had suffered natural decomposition, or pay the high prices necessiated by quick transit, or such costly methods as cold storage, hermetical sealing, &c., it is evident that experiment must determine the extent of the injury to health which results from the use of food preserved from decomposition by antiseptic chemicals.

The most complete investigations of the kind named, which are so far on record, are those conducted by the Imperial Health Office at Berlin, and those conducted by the Bureau of Chemistry at Washington. The general conclusions reached in both cases go to show that danger attends the use of all preservatives, and that unless great care is employed in regulating the quantity, very serious harm must result. Most countries have enacted stringent laws regarding the matter.

The following concise summary of Food Laws, as regards preservatives, is taken from a bulletin issued by the United States Department of Agriculture, through the *Jour. Soc. Chem. Industry,* 1901, p. 774 :—

'Prohibition of the use of chemical preservatives and aniline dye stuffs as colouring agents for liquors is almost universal, while the employment of all foreign colouring matter is often prohibited. The use of chemical preservatives and foreign colouring matter with beer is usually prohibited. The sale of foods containing saccharin, sucrol, and similar preparations is prohibited in Belgium, France, Germany, Italy and Roumania. The importation of saccharin, except for medicinal use and under prescribed conditions, is prohibited by Belgium and Greece. All countries permit the dyeing of confections and similar articles which are themselves colourless, but are customarily coloured artificially. Belgium permits mustard to be coloured artificially when properly labelled. Salicylic acid and boric acid have been used so much more commonly than other preservatives, that legislation is usually directed against them, whilst local bodies often extend the prohibition to benzoic acid and other substances as they come into use.

'The sale of foods containing preservatives is prohibited in Austria, France, Hungary and Roumania, and that of beverages containing preservatives in Belgium, Germany and Switzerland. The addition of salicylic acid to food is prohibited in France. Holland does not permit the sale of beer containing salicylic acid, and Spain forbids its addition to wine. Italy permits the addition of 0·2 per cent of boric acid to butter, but forbids the use of other preservatives.'

Canada is behind other countries in this regard, and with the single exception of salicylic acid in potable liquors, which is specifically forbidden, leaves the onus of proving the harmfulness of any preservatives used in food upon the complainant. There can be little doubt, however, that our courts would find a verdict in accordance with the recommendations of the English Parliamentary Committee of 1901. It is desirable that action should be taken to give these very conservative recommendations a legal status.

It has been suggested that the scheduling of certain preservatives as alone permissible would put a stop to the investigatory and experimental work now carried on by the manufacturers who, it is asserted, are continuously seeking for new substances suitable to their needs. There does not seem to me to be much force in this contention. If we assume that no manufacturer would wish to employ a new preservative until he had made sure of its harmless character; then the evidence which serves to satisfy himself of this fact could easily be adduced before a government committee; and if it proved to be convincing, such new preservative could easily be added to the list. The literature of formaldehyde is in evidence to show that, in this particular case, certain manufacturers were satisfied with data which entirely failed to satisfy disinterested experts.

Finally, I have several times been asked, (Is it possible for an honest and conscientious manufacturer to use a preservative, in view of the conflicting evidence which investigators have put on record ?' In reply I would say, that I can easily conceive the natural bias of a manufacturer in favour of preservatives to lead him to accept the conclusions of men like Dr. Liebreich and Dr. Lebbin and others, as sufficient justification for the careful and judicious employment of boron compounds, sulphites and benzoates; while the concessions of the English Parliamentary Committee in regard to the first two named may seem to give him full warranty for their use. The attitude of the consumer towards the matter is quite different, as I have already pointed out. His preference should undoubtedly be for fresh food, or for food preserved by methods which have stood the test of time, and have proved their harmlessness

Important opinions upon the subject of legislation regarding preservatives, are as follows:—

M. Fayolle (Bull. Scien. Pharmacolog, 1904, 172; abst. Zeit. für Nahr, and Genussm., 1905, 374).

After referring to the demonstrations of the consulting committee of hygiene, as proving interference with assimilation and reduction of activity of the digestive ferments, due to preservatives in foods, says: 'A partial prohibition is insufficient. Only a general law which shall make the addition of such preservatives a punishable offence can be effective.'

Eccles, R. G. (Amer. Jour. Pharm., 1904, 506) contends that the opposition to the use of preservatives is based on theoretical considerations. He asserts that statistics prove that countries in which the use of preservatives is forbidden, show a higher percentage of deaths due to diseases of the digestive tract than those in which no laws against preservatives exist.

In his recently issued work on Food Preservatives (New York: Van Nostrand & Co.), a very lucidly written book of 202 pages; Dr. Eccles shows an extensive acquaintance with the literature of his subject.

Chapters III, IV. and V. contain many references of value. Dr. Eccles is, however, a special pleader; and the judicial attitude towards his subject is conspicuously lacking. Such sentences as the following bear out this contention.

'Food commissioners and food chemists, for some reason, do not interfere with sugar manufacturers and candy men as they do with catsup bottlers and fruit juice bottlers.'—(p. 37.) 'Surely no one can seriously contend that the almost weekly recurrence of cases of severe ptomaine poisoning is at all comparable with the imaginary ills that preservatives are supposed, by some people, to produce.'—(p. 23.) It is regrettable that Dr. Eccles should have allowed himself to depart from clear and plain statement, because he has much of real value to say; and an unbiassed narrative of experience and fact is always valuable and welcome.

Many of his statements clearly indicate his standing as a special pleader. Such are the following: 'There is absolutely nothing inherently injurious in substances the dose of which is kept below the limit of minimum medicinal effect.'—(p. 197.) 'By permitting free competition in the use of preservatives, newer and better ones are sure to be sought for and discovered.'—(p. 34.) Apart from the fact that it is out of the question that a long-suffering public should permit 'free competition in the use of pre-

servatives. It is open to question whether a ready acceptance of preservatives by the public would not tend to make further research unnecessary. By prohibiting the use of any preservative not proved to be physiologically harmless, will not the search for such a preservative be stimulated?

H. Leffmann (Amer. Jour. Pharm., 1904, 503) acknowledges that a certain degree of injury to health results from the use of most modern preservatives. But he contends that this is not the proper way to look at the question. No preserved food is as good as a fresh food; and even boiling renders albumen less digestible. Dessication, smoking, pickling, have still more marked effect in hindering the digestibility of food. It is therefore an arbitrary and unreasonable conclusion to condemn the newer preservatives while allowing the old. What evidence shows that common salt is harmless in food? What proof have we that benzoate of soda is more objectionable than the residues from wood smoke?

Dr. Wiley stands out clearly for the prohibition of all chemical preservatives in food; he makes a distinction between condimental preservatives and chemical preservatives; but I fear that it may sometimes be difficult to mark the dividing line. He recognizes that exceptional cases may occur, when the employment of a preservative may be the lesser of the evils, *e.g.,* prolonged voyages, or exploration, sieges, &c. Dr. Wiley's attitude is altogether admirable, as the expression of a high principle of ethics; but it may be questioned whether we may absolutely ignore the economics of a matter of this kind. The cost of a foodstuff to the consumer is often a reason for his choice of the second best, and there is no doubt that the cost of placing many kinds of food on the market is greatly lowered by the use of preservatives. The wealthy will always be able to commend fresh foodstuffs; or to pay the higher prices required to meet the cost of packing in the best methods known to art. But the poorer classes of the community may be compelled to do altogether without certain desirable foods or use these as preserved by one or other of the so-called chemical preservatives. At the same time when we consider that the excretion of most of these substances falls chiefly upon the kidneys, and recognize the fact that kidney disease of one kind or another is a main cause of the loss of vitality in middle life, and indeed figures very largely in mortality records, we cannot but feel that the legislation of potent germicides in food products is a matter of the most serious kind.

It may be well to notice the fact that traces of chemical substances, identical with some of the preservatives above named, occur naturally in certain fruits. Thus, benzoic acid is a constituent of several kinds of fruits, and in particular of the cranberry.

L. Portes and A. Desnoulières (Ann. Chim. Anal. Appl. 401) have found out by the examination of fresh strawberries, that salicylic acid, probably as the methyl ester, is a normal constituent of this fruit. The amount in the fresh berries is about 1 mgr. per kilog. (i.e., about 1 part per million or 0·0001 per cent.)'

E. O. V. Lippman (Chem. Zeit. 1902—465) found a deposit in a vacuum pan, which had been used for concentrating lemon juice. On analysis this gave about 0·5 per cent of boric acid. Various commercial samples of lemon juice were then examined, as well as lemons and oranges, and in nearly every instance strong boric acid reactions were obtained. In the lemons, boric acid was detected both in the juice and in the rind.

Advocates of preservatives have sought to make an argument in their favour of the above mentioned fact. But aside from the extreme minuteness of the quantity naturally occurring in these fruits, the fact that it occurs naturally, and has hence always been a part of the foodstuff in question, puts it out of the category of ordinary commercial preservatives.

Some samples of common salt are found to contain traces of borax, and the following note is interesting:—

Farnsteiner and others (Bericht über die Nähruugsmittel Koutrolle in Hamburg, 1903-4, 36) find that common salt is free from any such amounts of borates as would interfere with the detection of these when used as food preservatives. But certain Italian samples of salt contain notable amounts of borax.

A. McGILL.

APPENDIX C.

BULLETIN No. 127—ROLLED OATS AND OATMEAL.

Ottawa, October 6, 1906.

W. J. Gerald, Esq.,

Deputy Minister of Inland Revenue.

Sir,—In the month of April last representations were made to this branch to the effect that flaked and rolled oats were being manufactured and sold in Ontario of very inferior quality. The samples submitted contained an excessive proportion of the exterior tissues of the grain besides foreign substances. I then recommended that an inspection be made of oatmeal and similar products as soon as the work of the Laboratory would permit. Subsequently, and as authorized by you, a collection was made of such samples, the origin of which and the results of their examination are given in the table which accompanies this report. In this table the microscopical examination and percentage of crude fibre are stated, these determinations being all that were necessary for the purpose in view. Only in one case, No. 27655, was any foreign starch detected, and as regards crude fibre the percentage varied from 0·80 to 3·35 per cent. The latter amount must be pronounced as excessive, if reference is made to the analyses of both European and American oatmeals which are on record. It is exceedingly seldom that these show higher than 2 per cent crude fibre, and in my opinion, that amount might fairly be assumed as the highest allowable limit. Among the 155 samples examined, 64 show higher amounts of crude fibre than 2 per cent, and this would seem to indicate that with regard to 41·3 per cent of the oatmeal samples now offered for sale in the Dominion the quality might be improved. At the same time none of the samples were found to contain the large amount of oat hulls originally complained of, and in the absence of any standard, it is impossible to characterize any of the samples as adulterated.

Besides making the determinations of the table some of the samples were analysed in order to obtain a general idea of their composition. The results are given in the following statement and include the alcohol and water extractives which were determined in order to an approximative estimation of the starch by difference In obtaining the results of both tables the following assistant analysts were more or less engaged :—Misses S. E. Wright and E. Davidson, Messrs. A. Lemoine and A. Valin.

SESSIONAL PAPER No. 14

ANALYSES OF SOME OF THE SAMPLES MENTIONED IN THE TABLE ACCOMPANYING THIS REPORT.

No. of Sample.	Name.	Total Proteids N. 6·25.	Moisture.	Fat or Petroleum Ether Extract.	92 p. c. Alcohol Extract.	Water Extract.	Crude Fibre.	Total Ash.	Starch by Difference
27137	Rolled Oats	11·56	8·68	3·76	3·80	2 20	1·60	1·70	66·70
27159	"	12·06	9·40	4·20	3·76	1·68	1·80	1·98	65·12
27162	"	11·87	8 72	5 40	3·64	1·44	2 10	1·56	65·27
27164	"	11·56	9 65	5·07	3·16	2·72	2·20	1·58	64·06
27176	"	11·37	8·36	4·76	4·28	1·52	1 65	1·60	66·46
28305	Oatmeal	11·18	9·03	3 89	4·28	2·32	3·35	0 96	63·85
28307	"	10·93	9·08	3·76	4·44	2·28	2·20	1·74	65·57
28317	"	12·87	9·20	3·40	4·60	1·52	2·00	1·74	64·67
24221	Quaker Oats	11·87	9·56	5·72	3 36	2·68	2·30	1·74	62·77
24224	Rob Roy Scotch Oatmeal	12 00	9·00	3·00	4·84	1·88	1·70	1·08	66·50
24242	Flaked Oatmeal	11·87	9 76	5 16	3 28	2 00	2·00	1·54	64·39
24245	"	12·00	10·08	5·32	2·32	2 20	3·15	1·64	63·29
24254	Rolled Oats	12·62	9 12	4·60	3 60	2 48	1·55	1·84	64·79
24259	"	12·50	7·28	5·48	2·92	3·04	1·75	1·20	65·83
24260	Flaked Oats	12·00	8·68	4·52	3·28	2·44	2·15	1·46	65·47
24263	"	12·81	8·80	5·64	2·29	2·28	1·80	0 92	65·46
24264	Rolled Oats	13·93	8·20	5·44	3·56	2·92	2·40	0 35	63·20
706	Oatmeal	12·69	7·68	5 28	4·28	3·88	0·80	1·10	64·29
707	"	13·37	8·12	5·56	3 64	3·44	0·80	0·70	64·37
27657	Rolled Oats	13·94	9·88	3·72	3·48	1·08	2·10	1·64	64·16
29317	Oatmeal	11·82	7·60	5·08	4·48	2·76	2·35	1·15	64·76
29322	Rolled Oats	12·63	8·24	5·32	4·12	3·00	1·00	1·55	64·14
29457	"	13·75	9·48	4·00	4·84	0·52	1·35	1·52	64·54
27637	Oatmeal	12·94	8·28	2 52	5·04	1·60	1·60	1·84	66·18
30125	Jersey Oats	11·02	8·80	4·72	2·56	2·24	1·50	1·86	67·30
28678	Quaker Oats	11·94	7·56	5·64	3·76	3·00	0 25	0 45	67·40
28679	Rolled Oats	12·93	7·56	5·80	4·04	2·92	0·20	0·90	65·65

These analyses give the following averages as regards the most valuable nutrients in oatmeal:—

Proteids ..... 12·30 p.c.
Fat ..... 4·67 "

The averages given in König's large work (Chemische Zusammensetzung der Menschlichen Nahrungs—und Genussmittel, 1903; I, 632) for the same constituents in oatmeal are as follows:—

Proteids ..... 13·87 p.c.
Fat ..... 6.18 "

I have the honour to be, sir,

Your obedient servant,

THOMAS MACFARLANE,

Chief Analyst.

RESULTS OF EXAMINING 155 SAMPLES ROLLED OATS AND OATMEAL.

DISTRICT OF NOVA SCOTIA—R. J. WAUGH, INSPECTOR.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.	Name and Address of Manufacturer or Furnisher.	Inspector's Report.	Microscopical Examination.	Crude Fibre.
1906.								p. c.
June 19	Rolled Oats	27147	J. F. Crowe & Co., Halifax.	1 lb.	4c. P. McIntosh & Co., Toronto.	Sold as Crown brand	Oat starch and tissues.	1·60
" 20	"	27148	W. E. Crowe & Co., Halifax.	¾ "	3c. J. Valon, Fergus, Ont.	Sold as Monkland brand.	" "	2·25
" 20	"	27153	A. L. Doyle & Co., Halifax.	¾ "	4c. Unknown		" "	2·00
" 25	"	27159	Ryan Bros., Truro, N.S.	¾ "	5c. Tillson Co., Tillsonburg, Ont	Taken from bulk	" "	1·80
" 25	"	27161	Angus & Pollock, Truro.	¾ "	3c. " "	" "	" "	1·55
" 25	"	27162	A. F. Ross & Co., Truro.	¾ "	3c. " "	" "	" "	2·10
" 25	"	27164	W. P. Carter, Truro	¾ "	3c. American Cereal Co., Peterboro', Ont.	Sold as Victor brand; taken from bulk.	" "	2·20
" 25	"	27166	E. E. O'Brien, Truro	¾ "	3c. Tillson Co., Tillsonburg, Ont	Sold as Aberdeen brand; taken from bulk.	" "	2·15
" 25	"	27169	H. W. Ryan, Truro	¾ "	3c. American Cereal Co., Peterboro', Ont.	Sold as Victor brand; taken from bulk.	" "	2·55
" 26	"	27170	J. E. Walker, Dartmouth	¾ "	5c. Unknown	Vendor purchased from J. F. Crowe, Halifax.	" "	2·00
" 26	"	27171	B. O. Bishop, Dartmouth	1 pkg.	10c. American Cereal Co., Peterboro', Ont.	Sold as pure Quaker rolled white oats.	" "	2·10
" 26	"	27172	C. McNab, Dartmouth.	1 "	25c. P. McIntosh, Toronto	Beaver brand Canadian rolled oats.	" "	1·90
" 26	"	27173	G. A. Orman, Dartmouth.	¾ lb.	5c. American Cereal Co., Peterboro', Ont.	Sold as Saxon rolled oats	" "	2·60
" 26	"	27174	E. M. Walker, Dartmouth	¾ lb.	3c. American Cereal Co., Peterboro', Ont.	Victor brand	" "	1·45
" 26	"	27175	S. Mott, Dartmouth.	¾ "	3c. Unknown	Purchased from J. F. Crowe, Halifax.	" "	1·65
" 26	"	27176	Moseley & Co., Dartmouth.	¾ "	1c. Ogilvie Milling Co., Montreal.	Put up in sacks	" "	1·65

DISTRICT OF PRINCE EDWARD ISLAND—T. MOORE, INSPECTOR.

June	18	Rolled Oats	28302	Jenkins & Son, Charlottetown.	1½ lb.	6c.	Tillson & Co., Tillsonburg, Ont.		Oat starch and tissues.		2·60
"	18	"	28304	Geo. Rackham, Charlottetown.	1½ "	6c.	Woodstock Cereal Co., Woodstock, Ont.		"	"	1·75
"	18	Oatmeal	28305	Geo. Rackham, Charlottetown.	1½ "	6c.	John Andrews, Charlottetown. Royalty.		"	"	3·35
	19	"	28307	Brace & McKay, Summerside.	1½ "	5c.	Charles Ives, Bedeque, P.E.I.		"	"	2·20
"	19	Rolled Oats	28312	Sinclair & Stewart, Summerside.	1½ "	5.	Archibald XXXX Rolled Oats, Beachville, Ont.		"	"	1·40
"	19	Oatmeal	28313	Sinclair & Stewart, Summerside.	1½ "	5.	H. Mallett, North Granville, P.E.I.		"	"	2·40
"	20	Rolled Oats	28316	T. White, Charlottetown.	1½ "	6.	Carvell Bros, Charlottetown		"	"	2·90
"	20	Oatmeal	28317	" "	1½ "	6.	Warren's Mills, North River, P.E.I.		"	"	2·00

DISTRICT OF NEW BRUNSWICK—J. C. FERGUSON, INSPECTOR.

June	19	Rolled Oats	24215	Bowman & Cole, 28-30 Water St., St. John.	3 pkgs.,	75c.	The Tillson Co. Ltd., Tillsonburg, Ont.	Labelled 'Tillson's Premium Rolled Oats.'	Oat starch and tissues.		1·25
"	21	"	24218	Hall & Fairweather, 79 Ward St., St. John.	3 "	75c.	The American Cereal Co., Peterboro', Ont.	On label: 'Saxon Rolled Oats.'	"	"	3·00
"	25	Quaker Oats	24221	A. E. Trentowsky, 51-53 Coburg St., St. John.	3 "	30c.	" "	Labelled on back two pounds 'Pure Quaker Oats.'	"	"	2·30
"	27	Oatmeal, Rob Roy, Scotch.	24224	The Two Barkers, Ltd., 100 Princess St., St. John, N.B.	3 "	45c.	David Grierson & Co., Glasgow, Scotland, and Toronto, Ont.	Labelled 'Old fashioned stone ground. Rob Roy, the Chief-O-Scotias food; guaranteed. Registered Scotch Oatmeal.	"	"	1·70
"	28	Flaked Oatmeal	24227	McPherson Bros., 181 Union St., St. John.	3 lbs.	12c.	G. Bent & Son, wholesale, South Wharf, St. John, N.B.	Brand, 'Blue Bell.' From bulk; quality guaranteed.	"	"	1·75
July	9	Rolled Oats	24233	M. & H. Gallagher & Co., 34 Charlotte St., St. John, N.B.	3 pkgs.,	75c.	P. McIntosh & Son, Toronto.	Labelled 'Beaver Canadian rolled oats; oven baked,	"	"	1·25
"	12	Oatmeal	24241	Steeves & Allanach, Main St., Moncton.	5 lbs.,	25c.	The American Cereal Co., Peterboro', Ont.	On head of barrel, 'Victor rolled oats; Stagshead; oatmeal. Made in Canada,	"	"	2·50
"	13	Flaked Oatmeal	24242	George Stables, Public Square, Newcastle.	3 "	15c.	The Tillson Co., Ltd., Tillsonburg, Ont.	Labelled 'Aberdeen brand.'	"	"	2·00
"	14	"	24245	E. A. Strang, Cunard St., Chatham, N.B.	3 "	15c.	Archibald, Beachville, Ont.	On package: 'Sampled Archibald's Peerless.'	"	"	3·15
"	16	"	24248	S. Williamson, St. George St., Bathurst.	3 "	15c.	Walter Thompson & Son, London, Ont.	On package: Maple leaf trade mark.	"	"	1·70

RESULTS OF EXAMINING 155 SAMPLES ROLLED OATS AND OATMEAL—*Continued.*

DISTRICT OF NEW BRUNSWICK—*Concluded.*

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.	Name and Address of Manufacturer or Furnisher.	Inspector's Report.	Microscopical Examination.	Crude Fibre.
1906.								p.c.
July 23	Rolled Oats	24254	Estate of G. T. Whelpley, 580 Queen St. Fredericton.	3 lbs., 10c.	The Flavelle Milling Co., Ltd., Lindsay, Ont.	On package: 'Choice rolled oats; Thistle brand.'	Oat starch and tissues.	1·55
" 23	Oatmeal	24256	C. H. Burt, 332 Queen St., Fredericton.	3 " 15c.	Woodstock Cereal Co., Ltd., Woodstock, Ont.	On barrel: 'Coronet, 180 lbs., choice rolled oats,	" "	1·40
" 24	Rolled Oats	24259	J. W. Dalling, 15-17 King St., Woodstock.	3 " 15c.	Ogilvie, Montreal, Que.	Ogilvie's royal oats	" "	1·75
" 24	Flaked Oats	24260	C. B. Snow, 4 Main St., Woodstock.	3 " 15c.	Flavelle Milling Co., Lindsay, Ont.	Choice flaked oats; 'Diadem.'	" "	2·15
" 25	"	24263	James E. Porter & Son, Main St., Andover.	3 " 15c.	Geo. E. Barbour & Co. Ltd., St. John, N.B.	Labelled finest quality, G.E.B., 'Climax.'	" "	1·80
" 25	Rolled Oats	24264	D. R. Bedell, Main St., Andover.	3 " 15c.	The American Cereal Co., Peterboro', Ont.	'Victor brand'	" "	2·40

DISTRICT OF QUEBEC—C. E. ROY, INSPECTOR.

June 21	Oatmeal	668	Elz. Fortier et fils, Ste. Anne de Beaupré.	1 lb., 6c.	C. A. Paradis, Que		Oat starch and tissues.	2·30
" 21	"	669	Simeon Ratte, Ste. Anne de Beaupré.	1 " 4c.	Langlois & Paradis, Que.		" "	1·80
" 21	"	671	Louis Côté, Ste. Anne de Beaupré.	1 box, 10c.	T. Davidson & Co., Que.		" "	1·65
" 27	"	672	Chas. Clouette, Beauport.	1 pkg., 10c.	Drouin et frère, Que		" "	3·00
" 28	"	674	Theo. Lacouline, Chateau Richer.	1 lb., 5c.	J. B. Renaud & Co., Que.		" "	2·10
" 28	"	676	Ed. Rheaume, Chateau Richer.	1 " 5c.	Unknown		" "	1·60
July 2	"	682	Ber. Bourassa, St. Raymond.	1 " 4c.	N. Turcotte et Cie, Que.		" "	1·90
" 5	"	685	Jos. Lambert, St. Joseph, Beauce.	2 " 15c	Turcotte et frère, Que		" "	2·10

"	5	Quaker Oats	686	A. Fortier et Cie, Beauceville.	1 pkg., 15c.	A. Carrier et fils, Lévis, Que.			"	2·75
"	5	Oatmeal	688	G. H. Lachance, Beauceville, West.	1 lb., 4c	J. B. Renaud et Cie, Que.			"	1·60
"	11	"	689	Jos. Julian, Pont Rouge.	1 " 4c	Unknown			"	1·75
"	19	"	706	Chas. Andet, St. Anselme.	1 " 4c	Ogilvie, Montreal			"	0·80
"	19	"	707	J. M. Ouellet, St. Anselme.	1 " 4c	Unknown			"	0·80

DISTRICT OF ST. HYACINTHE—J. C. ROULEAU, INSPECTOR.

June	21	Oatmeal	427	F. X. Giroux, Farnham.	1 lbs., 4c	J. A. Mathewson & Co., Montreal.	Taken out of a flour barrel.	Oat starch and tissues.		2·05
"	18	Rolled Oats	438	T. A. Bourgault, Drummondville.	1 " 4c	Demers, Fletcher & Co., Montreal.	Taken out of a bin under shelves.	"	"	1·60
"	18	'Banner' Rolled Oats.	439	N. H. Dubois, Actonvale.	1 box, 25c	The American Cereal Co., Peterboro', Ont.	On one side of the package stamped No. 2.	"	"	2·10
"	19	Oatmeal	440	J. D. Lacerte, Plessisville.	1 lb., 4c	Carter, Galbraith & Co., Montreal.	Taken from a drawer under the counter.	"	"	1·50
"	21	'Victor' Rolled Oats.	441	Gendron, Denault & Co., Sherbrooke.	1 "	The American Cereal Co., Peterboro', Ont.	Taken out of a 100 lb. bag and guaranteed pure by makers.	"	"	2·50
"	22	Quaker Oats	442	L. Moreau, St. Jean.	1 pkg., 15c.	" " "		"	"	1·30
"	22	'Norka' Cooked Oats.	443	R. Goold, St. Jean.	1 " 15c.	The Norka Food Co., Battle Creek, Michigan.		"	"	1·75
"	22	'Beaver' Rolled Oats.	444	F. J. Bourassa et Cie., St. Jean.	1 " 25c.	P. McIntosh & Son, Toronto.		"	"	2·00
"	27	Oatmeal	445	H. Bisaillon, St. Lambert.	1½ " 6c.	Hudon, Hebert et Cie., Montreal.	Taken from a drawer under shelves.	"	"	2·00
"	27	"	446	P. Finch, St. Lambert.	1½ " 6c.	Brodie & Harvie, Montreal.	Taken out of a 24 lb. bag. Stamped on pkg. "20 P 64"	"	"	1·85
"	27	Quaker Oats	447	J. G. Berthiaume, Longueuil.	1 " 10c.	The American Cereal Co., Peterboro', Ont.		"	"	2·50
"	27	Rolled Oats	448	M. Viger, Longueuil.	1 lb., 4c.	Portage la Prairie Flour Mills Co., Manitoba.		"	"	1·70
"	29	Banner Rolled Oats	449	Sorel Meal Market, Sorel.	1 pkg., 25c	The American Cereal Co., Peterboro, Ont.	Stamped No. 1 on package.	"	"	2·00
"	29	Steam Cooked Oatmeal	450	Alf. Francoeur et Cie., Sorel.	1 " 15c.	The Hornbury's Oatmeal Co., New York.	Manfg. and guaranteed by the Clover Mills, Buffalo, N.Y.	"	"	1·35
"	29	Buffalo Rolled Oats.	451	J. O. Fagnan et Cie., Sorel.	1 lb., 4c.	The Dowd Cereal & Milling Co., Pilot Mound, Man.	Taken from a drawer under shelves.	"	"	2·95
"	30	Rolled Oats	452	Paquette et Frères, Berthierville.	1 " 5c	F. O. Lamarche, Berthierville, Que.		"	"	2·75
"	30	Quaker Oats	454	J. A. Laporte, Berthierville.	1 pkg., 10c.	The American Cereal Co., Peterboro'.		"	"	1·45

RESULTS OF EXAMINING 155 SAMPLES ROLLED OATS AND OATMEAL—*Continued.*

DISTRICT OF MONTREAL—J. J. COSTIGAN, INSPECTOR.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.	Name and Address of Manufacturer or Furnisher.	Inspector's Report.	Microscopical Examination.	Crude Fibre.
1906								p.c.
June 22	Rolled Oats	27649	M. De Repentigny, 129 Wellington St., Montreal.	2 lbs., 8c.	Ogilvie Milling Co.		Oat starch and tissues.	1·95
" 22	" "	27650	E. Tessier, 194 William St., Montreal.	2 " 7c.	Not known.		" "	2·60
" 22	Oatmeal	27651	" "	2 " 7c.	"		" "	1·85
" 22	"	27652	Bertrand & Laplaine, De Lormier.	2 " 10c.	"		" "	2·40
" 22	Rolled Oats	27653	" "	2 " 7c.	"		" "	1·85
" 22	" "	27654	E. Ruby, De Lormier.	2 " 7c.	"	Victor brand.	" "	1·45
" 22	Oatmeal	27655	" "	2 " 7c.	"		Oat and wheat starch.	2·20
" 25	Rolled Oats	27656	W. De Montigny, 464 Centre St., Montreal.	2 " 7c.	"		Oat starch and tissues.	2·25
" 25	" "	27657	L. P. Lavoie, 3189 Notre Dame, Montreal.	2 " 7c.	Brodie & Harvie, Montreal		" "	2·10
July 5	Oatmeal	27658	Adam Lamy, 3555 Notre Dame, Montreal.	2 " 7c.	Not known	Sold from bulk	" "	2·50
" 5	Flaked Oats	27659	" "	2 " 8c.	"		" "	1·70
" 5	Rolled Oats	27660	O. Decarie et fils, 3435 Notre Dame, Montreal.	2 " 6c.	"	Victor brand.	" "	2·15
" 5	" "	27661	L. Charbonneau, 144 St. John, Montreal.	2 " 7c.	Brodie & Harvie, Montreal.		" "	1·50
" 5	Oatmeal	27662	" "	2 " 7c.	Laporte, Martin & Co., Montreal.		" "	1·85
" 5	Rolled Oats	27663	R. Jacobson, 142 St. Dominique, Montreal.	2 " 8c.	" "		" "	1·40
" 5	Oatmeal	27664	" "	2 " 7c.	Not known	Sold from bulk	" "	2·70

DISTRICT OF OTTAWA—A. E. SANDERSON, INSPECTOR.

July	18	Rolled Oats	29314	T. Martin, 169 Rideau, Ottawa.	1½	lbs.,	5c.	Dowd Milling Co., Quyon, Que.		Oat starch and tissues.	2·90
"	18	"	29315	" "	1½	"	5c.	American Cereal Co., Peterboro', Ont.		"	1·90
"	18	"	29316	A. Blyth, 69 William, Ottawa.	1½	"	5c.	Ottawa Milling Co., Ottawa		"	2·20
"	18	Oatmeal	29317	" "	1½	"	5c.	" "		"	2·35
"	19	Rolled Oats	29322	Crowe & Co., 236 Bank, Ottawa.	1½	"	5c.	" "	Victoria brand	"	1·00
"	19	Oatmeal	29323	" "	2	"	7c.	Unknown	Glenora brand	"	1·85
"	19	Rolled Oats	29324	J. S. Martin, 310 Bank, Ottawa.	2	"	10c.	American Cereal Co., Peterboro', Ont.		"	2·25
"	19	Oatmeal (coarse)	29325	" "	2	"	10c.	Dowd Milling Co.		"	2·40
"	19	" (fine)	29326	" "	2	"	10c.	"		"	2·80
"	19	" (medium)	29327	" "	2	"	10c.	"		"	1·75
"	19	"	29328	Millar & Co., 427 Bank, Ottawa.	2	"	10c.	Ottawa Milling Co., Ottawa	Standard brand	"	2·10
"	19	Rolled Oats	29329	" "	2	"	10c.	" "	'K. Y.' brand	"	2·80
"	19	Oatmeal	29345	Allan & Co., Wellington, Ottawa.	2	"	6c.	McIntosh, Toronto		"	2·30
"	19	Rolled Oats	29346	" "	2	"	6c.	W. H. Dwyer, Ottawa		"	1·90
"	20	"	29352	Mayberry & Co., Prescott, Ont.	2	"	8c.	McIntosh, Toronto		"	1·85
"	20	Oatmeal	29353	" "	2	"	8c.	"		"	2·00

DISTRICT OF KINGSTON—J. HOGAN, INSPECTOR.

June	18	Flaked Oats	29448	J. H. P. Young, Front St., Belleville, Ont.		lbs.,	15c.	Peterboro' Cereal Co		Oat starch and tissues.	2·35
"	18	Rolled Oats	29451	J. P. McKeeny, Port Hope, Ont.	3	"	15c.	A. R. Roos, Embro, Ont.		"	1·50
"	19	"	29457	D. Adams, Kent St., Lindsay, Ont.	6	"	15c.	Flavelle Milling Co., Lindsay, Ont.		"	1·35
"	19	Oatmeal	29458	" "	6	"	15c.	" "		"	1·50
"	19	"	29462	J. Brown, Lindsay, Ont.	6	"	15c.	" "		"	1·75
"	19	Rolled Oats	29467	J. Sutherland, George St., Peterboro'. Ont.	6	"	20c.	American Cereal Co., Peterboro', Ont.		"	1·20
"	19	Oatmeal	29470	Mason Co., Peterboro, Ont	6	"	10c.	Not known		"	2·10
"	19	Rolled Oats	29471	" "	3	"	10c.	American Cereal Co., Peterboro', Ont.		"	1·05
"	19	Oatmeal	29474	W. H. Hamilton, Peterboro, Ont.	3	"	15c.	Not known		"	1·25
"	19	Rolled Oats	29475	" "	3	"	15c.	"		"	1·50
"	19	Oatmeal	29476	J. Hill, Peterboro', Ont.	3	"	10c.	"		"	1·80
"	19	Rolled Oats	29461	J. Brown, Lindsay, Ont.	6	"	15c.	Flavelle Milling Co., Lindsay, Ont.		"	1·15

RESULTS OF EXAMINING 155 SAMPLES ROLLED OATS AND OATMEAL—*Continued.*

DISTRICT OF TORONTO—J. J. COSTIGAN, INSPECTOR.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.	Name and Address of Manufacturer or Furnisher.	Inspector's Report.	Microscopical Examination.	Crude Fibre.
1906.								p.c.
June 19	Flaked Oats	27633	H. Tolchard, 518 Yonge St., Toronto.	1 bag, 13c.	P. McIntosh & Son, Toronto		Oat starch and tissues.	1·50
" 19	Pan Dried Oats	27634	F. Patience, 419 Yonge St., Toronto.	1 pkg., 10c.	Tillson Co., Ltd., Tillsonburg, Ont.		" "	2·10
" 19	Oatmeal	27635	J. Blood, Yonge Street, Toronto.	2 lbs., 8c.	P. McIntosh & Son, Toronto		" "	1·35
" 20	Flaked Oats	27636	James Miller, 336 Queen St., east, Toronto.	2 " 7c.	Lawson Milling Co., Toronto		" "	1·35
" 20	Oatmeal	27637	" "	2 " 7c.	" "		" "	1·60
" 20	Rolled Oats	27638	" "	1 pkg., 25c.	Tillson Co., Ltd., Tillsonburg, Ont.	Premium brand. Prize in each package.	" "	2·50
" 20	Flaked Oats	27639	Dallamon Bros., Queen St., east, Toronto.	2 lbs., 8c.	Not known		" "	2·00
" 20	Oatmeal	27640	" "	2 " 7c.	"		" "	2·40
" 20	Rolled Oats	27641	H. C. Hall, 252 Queen St., east, Toronto.	2 " 8c.	Parkinson Cereal Co		" "	1·50
" 20	"	27643	A. W. Etwell, 161 McCaul St., Toronto.	2 " 8c.	Ogilvie Milling Co.		" "	2·85
" 20	Flaked Oats	27644	H. M. McCulloch, 151 McCaul St., Toronto.	1 bag, 10c.	Fairles Milling Co.		" "	1·50
" 20	Rolled Oats	27645	" "	2½ lbs., 10c.	Not known	Victor brand.	" "	2·20
" 20	Oatmeal	27646	" "	2½ " 10c.	"		" "	2·50
" 20	"	27647	T. Eaton Co., Ltd., Yonge St., Toronto.	2 " 6c.	"	White Swan brand (coarse)	" "	1·75
" 20	"	27648	" "	2 " 6c.	Robert Gray Co., millers		" "	1·45

DISTRICT OF LONDON—T. KIDD, INSPECTOR.

June	25	Rolled Quaker Oats	30099	Charles A. Nairan, Goderich, Ont.	1 pkg.,	10c.	American Cereal Co., Peterboro', Ont.		Oat starch and tissues.	1·50
"	28	Rolled Oats	30109	R. G. Smith, St. Mary's, Ont.	1½ lbs.,	5c.	Tillson Co., Tillsonburg, Ont.		" "	1·30
"	30	Quaker Oats	30120	Scandrett Bros., London, Ont.	1 pkg.,	10c.	American Cereal Co., Peterboro', Ont.		" "	1·80
"	30	Corn Flakes	30121	" "	1 "	10c.	Sanitas Nut Food Co., Ltd., Battle Creek, Mich.	Called toasted corn flakes	Mostly oat starch and tissues.	2·10
July	5	Pan Dried Oats	30122	Stuebling & Co., Berlin, Ont.	2 "	10c.	Tillson Co., Tillsonburg, Ont.		Oat starch and tissues.	1·85
"	5	Egg-O-See	30123	Dunke & Co., Berlin, Ont.	2 "	10c.	Randal & Rose, Wholesale grocers, Berlin, Ont.		Mostly oat starch and tissues.	1·40
"	5	Norka	30124	" "	2 "	15c.	Ebby, Blair & Co., wholesale grocers, Toronto.	Made in Battle Creek, Mich.	" "	2·30
"	5	Jersey Oats	30125	Deans & Walker, Galt, Ont.	1 "	15c.	McIntosh & Son, Toronto	Called Crown Brand Jersey Oats.	Oat starch and tissues.	1·50
"	6	Rolled Oats	30127	Beck & Schell, Berlin, Ont.	1 lb.,	5c.	" "		" "	1·50
June	25	Orange Meat	30104	Thomas Daily, Seaforth, Ont.	1 pkg.,	15c.	Frontenac Cereal Co., Kingston.	Called Orange Meat	" "	2·25

DISTRICT OF CALGARY—W. FLETCHER, INSPECTOR.

July	24	Rolled Oats	28664	Hudson Bay Co., retail, Calgary.	3 pkgs.,	60c.	The American Cereal Co., Peterboro', Ont.		Oat starch and tissues.	2·40
"	24	"	28667	G. F. & J. Galt, wholesale, Calgary.	1 "	25c	Tillson's, Tillsonburg, Ont.		" "	2·10
"	24	"	28670	Codville, Smith Co., Calgary.	1 "	5c.	Brackman Keer, Strathcona, Alberta.		" "	1·60
"	24	"	28673	Campbell, Wilson & Horn, Calgary.	1 pkg.,	25c.	American Cereal Co., Peterboro', Ont.		" "	2·05
"	26	Quaker Oats	28675	Hudson Bay Co., Edmonton.	3 "	55c.	" "		" "	1·50
"	26	"	28678	Revillon Bros., Edmonton.	3 "	60c.	" "		" "	0·25
"	26	Rolled Oats	28679	McDougall & Secord, Edmonton.	2 lbs.	10c.	Brackman Keer, Strathcona, Alberta.		" "	0·20
"	27	Oatmeal	28685	J. H. Morris, Edmonton.	3 "	35c.	" "		" "	1·25

RESULTS OF EXAMINING 155 SAMPLES ROLLED OATS AND OATMEAL—*Concluded.*

DISTRICT OF BRITISH COLUMBIA—E. B. PARKINSON, INSPECTOR.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.	Name and Address of Manufacturer or Furnisher.	Inspector's Report.	Microscopical Examination.	Crude Fibre.
1906.								p. c.
June 20	Extra Cream Rolled Oats.	28155	Brackman & Kerr, Vancouver.	7 lbs. 35c.	Vendors		Oat starch and tissues.	2·10
" 20	Coarse Oatmeal	28156	" "	10 lbs. 35c.	"		" "	1·90
" 20	Fine Oatmeal	28157	" "	10 " 35c.	"		" "	1·50
" 20	Standard Oatmeal	28158	" "	10 " 35c.	"		" "	2·35
" 20	Quaker Rolled Oats	28159	Hudson Bay Co., Vancouver.	6 " 40c	American Cereal Co., Peterboro', Ont.		" "	1·30
" 21	Rolled Oats	28164	A. Desbrisay, Vancouver.	7 " 30c.	Brackman & Kerr, Vancouver.		" "	2·10
" 21	Saxon Rolled Oats	28167	McDonell & Vannis, Vancouver.	5 " 30c.	American Cereal Co., Peterboro', Ont.		" "	2·25
" 21	Victoria Rolled Oats	28168	J. Deal, Vancouver	7 " 25c.	" "		" "	1·60

APPENDIX D.

BULLETIN No. 128—COMMON SALT.

OTTAWA, October 25, 1906.

W. J. GERALD, Esq., Deputy Minister of Inland Revenue.

SIR,—In accordance with your authorisation of August 14 last, a collection of table and dairy salt samples was made in August and September last, the number and the localities where collected being as follows :—

Inspection Districts.	No. of Samples.
Nova Scotia	5
Prince Edward Island	2
New Brunswick	5
Quebec	8
St. Hyacinthe	8
Montreal	10
Ottawa	8
Kingston	8
Toronto	10
London	8
Manitoba	6
Calgary	4
British Columbia	5
Total	87

The origin of these samples and the results they yielded on analysis to Mr. J. G. A. Valin, Assistant Analyst, are given in the table appended to this report. The percentage of chloride of sodium contained in them varies from 93 to 98, with corresponding differences as regards the quantities of moisture and impurities present. It is probably inadmissible to call the latter adulterations, the limits of variability for salt not having been yet established in Canada. In the United States a standard was adopted on June 26, 1906, by circular No. 19 from the office of the Secretary of Agriculture, which reads as follows :—

'Table salt, dairy salt, is fine grained crystalline salt, containing, on a water free basis, not more than one and four tenths (1·4) per cent of calcium sulphate ($CaSO_4$), nor more than five tenths (0·5) per cent of calcium and magnesium chlorides ($CaCl_2$ and $MgCl_2$) nor more than one tenth (0·1) per cent of matters insoluble in water.'

It is not necessary to recalculate the results given in the table and state them on a dry basis in order to see that a very large proportion of the sample described would not come up to the United States standard. Taking the figures as they stand in the table there are at least one-half of the samples which would not do so. It is enough for the present to call attention to this fact in order that manufacturers or furnishers may aim at supplying an article of a higher degree of purity. On the other hand it is satisfactory to note that many of the samples of Canadian origin fulfil the requirements of the United States Department of Agriculture.

Among the samples examined there are six which contain foreign substances insoluble in water, and which have apparently been added to prevent the particles of salt from caking together. It does not appear that this constitutes adulteration, for the Act provides that the usual definitions shall not apply, 'if any matter or ingredient not injurious to health has been added to the food or drug because the same is required for the production or preparation thereof as an article of commerce in a fit state for carriage or consumption, and not fraudulently to increase the bulk weight or measure of the food or drug, or to conceal the inferior quality thereof.' Nevertheless it would seem to be necessary that these brands should each, on selling, be labelled as a mixture.

I have the honour to be, sir, your obedient servant,

THOMAS MACFARLANE, *Chief Analyst.*

RESULTS of Examining 87 Samples

Date of Collection.	Nature of Sample.	Number of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Price.	Name and Address of Manufacturer or Furnisher.
1906.			*District of Nova Scotia—R. J. Waugh, Inspector.*		Cts.	
Aug. 28	Table Salt	27476	Jos. Scott, Halifax, N.S.	1 bag.	10	Snow Flake Salt Co., New York.
" 28	"	27477	H. Wentzell & Co., Halifax, N.S.	1 "	5	Canadian Salt Co., Windsor, Ont.
" 31	"	27486	Wm. Law & Co., Yarmouth, N.S.	1 "	5	" "
" 31	"	27487	Cain Bros., Yarmouth, N.S.	1 "	10	" "
" 29	"	27481	J. J. Skerry, Halifax, N.S.	1 "	5	Grant Oxley, Halifax
			District of P. E. Island—T. Moore, Inspector.			
Aug. 23	Table Salt	28324	R. F. Maddigan, Charlottetown.	3 tins.	30	Dearborn & Co., St. John, N.B.
" 23	"	28325	John McKenna, Charlottetown.	3 bags	15	Thomson Bros., St. Clair, Michigan, U.S.
			District of New Brunswick—J. C. Ferguson, Inspector.			
Aug. 24	Table Salt	24273	Two Barkers, Ltd., 100 Princess St, St. John, N.B.	1 bag.	12	Canadian Salt Co., Ltd., Windsor, Ont.
" 24	"	24274	W. A. Simonds, 89 Union St., St. John, N.B.	3 pkgs	30	Diamond Crystal Salt Co., St. Clair, Michigan, U.S.
" 24	Salt, English Dairy	24275	P. Nase & Son, Cor. Main and Bridge Sts., St John, N.B.	1 box.	20	Gaudy & Hallison, Packers and Furnishers, St. John, N.B.
" 24	Dairy Salt	24276	D. J. Purdy, 325 Main St., north end, St. John, N.B.	3 pts.	5	Imported from Liverpool, England.
" 24	Table Salt	24277	Charles F. Francis & Co., 141 Charlotte St., St. John, N.B.	3 pkgs	30	Heckers, Boston, Mass., U.S.A.
			District of Quebec—C. E. Roy, Inspector.			
Aug. 29	Table Salt, Windsor.	714	J. E. Potvin, Roberval, Que.	1 bag.	5	Côté et Boivin et Cie., Roberval, Que.
" 29	" "	715	Jos. Brassard, Roberval, Que.	1 "	5	N. Rioux et Cie., Quebec
" 30	" "	717	Ant. Amante, Chicoutimi, Que.	1 "	5	Côté, Boivin, et Cie., Chicoutimi, Que.
" 30	Dairy Salt	719	J. A. Pelletier, Chicoutimi, Que.	1 "	5	N. Rioux et Cie., Quebec
" 31	Brussels Salt	721	Neree Simard, Bagotville, Que.	1 "	5	A. Joseph & Sons, Quebec.
Sept. 10	Dairy Salt	724	J. F. Saindon, Rivière du Loup, Fraserville, Que.	1 "	5	Not known
" 11	Table Salt	727	Abraham Caron, Rimouski, Que.	1 "	5	N. Turcotte et Cie., Quebec
" 14	Dairy Salt	733	M. Thibaudeau, Quebec	1 "	5	D. Rattray & Son, Quebec.

of Common Salt.

Inspector's Report.	Results of Analysis.						Number of Sample.	Remarks by the Analyst.
	Moisture.	Residue Insoluble in Water.	Calcium Sulphate.	Calcium Chloride.	Magnesium Chloride.	Sodium Chloride; by difference.		
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.		
The vendor is a wholesale dealer	0·40	0·00	0·72	0·65	0·07	98·16	27476	
" "	0·37	0·00	1·36	0·88	0·20	97·19	27477	
" "	0·55	0·00	0·91	0·24	0·00	98·30	27486	
Labelled Windsor fine table salt.....	0·36	0·00	1·15	0·53	0·00	97·96	27487	
Labelled peerless crystal salt for family and dairy use.	0·10	0·00	0·91	0·46	0·16	98·37	27481	
National table salt does not cake; for the best and strongest dairy salt ask for Dearborn's premium dairy salt.	0·90	3·66	1·56	0·71	0·00	93·17	28324	The insoluble residue is starch.
Crown table and dairy salt.	0·24	1·46	1·05	0·73	0·00	96·52	28325	
Labelled Windsor table salt; purest and best.	0·58	0·00	1·42	0·27	0·00	97·73	24273	
Labelled scientifically made. Manufactured by Diamond Crystal Salt Co., St. Clair, Mich.; prepared shaker salt for the table; always dry.	0·24	1·33	0·54	0·75	0·00	97·14	24274	
Labelled English dairy salt.....	0·35	0·00	1·57	0·18	0 00	97·90	24275	
In bulk; Liverpool fine salt; table or dairy use.	0·43	0·00	1·77	0·30	0·00	97·50	24276	
Labelled Heckers' opal table salt; in moisture proof parafine bag, especially for ships and seaside use.	0·48	0·68	1·63	0·16	0·47	96·58	24277	
....	0·24	0·00	0·64	0·59	0·53	98·00	714	
....	0.48	0·28	1·70	0·30	0·49	96·75	715	
....	0·20	0·00	1·02	0 24	0·00	98·54	717	
....	0·32	0·00	1·84	1·00	0·00	96·84	719	
....	0·44	0 00	1·46	0·32	0·00	97·78	721	
. .. .	0·32	0·00	1·66	0·71	0·17	97·14	724	
.....	0·32	0·00	1·26	0·48	0·24	97·70	727	
....	0·30	0 00	1·84	0·76	0·17	96·93	7 3	

RESULTS of Examining 87 Samples

Date of Collection.	Nature of Sample.	Number of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Value.	Name and Address of Manufacturer or Furnisher.
1906.			*District of St. Hyacinthe—J. C. Rouleau, Inspector.*		Cts.	
Aug. 20	Table Salt.....	468	Paul Landry, Sorel, Que .	1 bag.	5	The Canadian Salt Co., Windsor, Ont.
" 21	Dairy Salt.....	469	F. O. Lamarche, Berthierville, Que.	1½ lb.	.....	The Dominion Salt Agency, London, Ont.
" 21	Table Salt.....	470	Dlle. A. Racette, L'Epiphanie, Que.	1 bag.	5	The Canadian Salt Co., Windsor, Ont.
" 21	Table Salt, 'Franklin'	471	C. Barette, Joliette, Que..	2 lbs.	.....	Verret, Stewart & Co., Montreal.
" 21	Dairy Salt.	472	L. A. Chartier, Joliette, Que.	2 lbs.	.....	The Canadian Salt Co., Windsor, Ont.
" 22	Table Salt, 'Snow Flake.'	473	Bureau et Cie., Shawenegan Falls, Que.	1 box.	20	The Snow Flake Salt Co., New York.
" 24	Dairy Salt.... . .	474	W. Martel et Cie., Three Rivers, Que.	1 bag.	20	The Canadian Salt Co., Windsor, Ont.
" 25	Table Salt.....	475	J. B. St. Pierre, St. Hyacinthe, Que.	1 "	5	E. Benoit, St. Hyacinthe.
			District of Montreal—J. J. Costigan, Inspector.			
Aug. 28	Table Salt.....	31516	H. F. Barre, 4818 St. Catherine, Maisonneuve, Que.	3 bags	15	Canadian Salt Co., Windsor Ont.
" 28	Dairy Salt.....	31517	Joseph Dubois, 554 Notre Dame, Maisonneuve, Que	3 lbs.	5	Hudon et Orsali, Montreal.
" 31	Salt.....	31518	Henry Russell, 2663 St. Catherine, Montreal.	2 lbs.	4	Hudon, Hebert et Cie., Montreal.
" 31	"	31519	English Provision Co., 681 St. Catherine, Montreal.	2 lbs.	2	Not known. .....
" 31	"	31520	Antoine St. Denis, St. Anne de Bellevue, Que.	1 bag.	5	Canadian Salt Co. Windsor, Ont.
Sept. 6	Dairy Salt....	31521	W. P. Brennan, St. Therèse de Blainville, Que.	3 lbs.	3	Verret, Stewart & Co., Montreal.
" 6	"	31522	H. J. Giles & Bro., Lachute Que.	3 "	15	Canadian Salt Co., Windsor, Ont.
" 11	"	31523	McRae Bros., Richmond, Que.	3 "	15	" "
" 11	Coarse Salt.	31524	J. Brown, Huntingdon, Que.	3 "	5	Not known.
" 11	Dairy Salt.	31525	E. C. McCoy, Huntingdon, Que.	3 "	5	"
			District of Ottawa—A. E. Sanderson, Inspector.			
Sept. 10	Table Salt.....	29364	Alex. Larose, 128 Queen St., west, Ottawa.	1 bag.	10	Canadian Salt Co., Ltd., Windsor, Ont.
" 11	"	29374	F. & J. Castle, wholesale, Queen St., Ottawa.	1 "	10	" " ..
" 11	"	29375	S. Daniels, O'Connor St., Ottawa.	1 "	10	" " ..
" 11	Dairy Salt.....	29376	" " .	1 gall.	10	Bate & Sons, Ottawa .....
11	Table Salt..... ...	29377	C. B. McLean, Bank St., Ottawa.	1 bag.	10	Canadian Salt Co., Ltd., Windsor, Ont.
11	"	29378	Geo. H. Hopper, Bank St., Ottawa.	1 "	10	" " ..

SESSIONAL PAPER No. 14

of Common Salt—*Continued.*

Inspector's Report.	Results of Analysis.						Number of Sample.	Remarks by the Analyst.
	Moisture.	Residue insoluble in Water.	Calcium Sulphate.	Calcium Chloride.	Magnesium Chloride.	Sodium Chloride; by difference.		
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.		
Included in the Department sample...	0·32	0·00	0·78	0·63	0 00	98·27	468	
Taken out of a 200-lb. bag.....	0·22	0·00	0·81	0·81	0·00	98·16	469	
Same as No. 468.....	0·17	0·00	0·81	0·39	0 17	98·46	470	
....	0·54	0·00	0·40	0·42	0·00	98·64	471	
Out of a 300-lb. barrel; factory filled .	0·30	0·00	0·95	0·94	0·00	97·81	472	
....	0·48	0·60	0·36	0·95	0·70	96·91	473	
....	0·20	0·00	1·29	0·46	0·00	98·05	474	
.. ..	0·24	0·00	1·22	0·78	0·02	97·64	475	
Windsor table salt.	0·78	0·00	1·19	0·78	0·00	97·25	31516	
....	0·64	0·68	1·15	0·85	0·00	96·68	31517	
Dairy salt.....	4·10	0·15	1·53	0·26	0·71	93·25	31518	
"	4·95	0·00	1·53	0·94	0·00	92·58	31519	
Table salt.	0·25	0·00	1·36	0·60	0 00	97·79	31520	
Put up in 50-lb. sacks. Stamped factory filled; Franklin, Liverpool.	0·40	1·15	1·63	0·46	0·00	97·36	31521	
Put up in 50-lb. sacks.....	0·18	0 00	1·14	0·46	0·60	98·22	31522	
From 20-lb. bag..	0·20	0·00	1·02	0·41	0·11	98·26	31523	
....	1·20	0·38	1·14	0·10	0·02	97·16	31524	
Factory filled; Liverpool	0·30	0·00	1·73	0·69	0·00	97·28	31525	
Labelled purest and best Windsor table salt.	0·16	0·00	1·22	0·91	0·18	97·53	29364	
" " ..	0·32	0·00	1·16	0·32	0·23	97·97	29374	
" " ..	0·32	0·00	1·02	0·34	0·14	98·18	29375	
... ...	0·31	0·30	1·68	0·50	0·00	97 21	29376	
Labelled purest and best Windsor table salt.	0·22	0 00	1·19	0·82	0·20	97·57	29377	
" " ..	0·20	0 00	1·43	0·18	0·00	98·19	29378	

RESULTS of Examining 87 Samples

Date of Collection.	Nature of Sample.	Number of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Price.	Name and Address of Manufacturer or Furnisher.
1906.			*District of Ottawa*—Con.		Cts.	
Sept. 11	Table Salt	29379	A. J. Warnock, Bank St., Ottawa.	1 lbs.	10	A. J. Warnock, Bank St., Ottawa.
" 11	Dairy Salt	29380	P. D. Herbert, Bank St., Ottawa.	3 lbs.	10	Bate & Sons, Ottawa
			District of Kingston—J. Hogan, Inspector.			
Aug. 21	Table Salt	29484	C. S. Litton, Alfred St., Kingston.	1 bag	5	Canadian Salt Co., Ltd., Windsor, Ont.
" 21	"	29487	W. J. Nesbitt, Johnston St., Kingston.	1 "	5	" "
" 21	"	29492	H. A. Smith, Brock St., Kingston.	1 "	5	" "
" 21	"	29496	John Gilbert, Gore St., Kingston.	1 "	5	" "
" 21	"	29497	F. Clow, Earl St., Kingston	1 "	5	" "
" 21	"	29498	R. Glover " "	1 "	5	" "
" 21	"	29499	L. Murphy, King St., Kingston.	1 "	5	" "
" 21	"	29500	P. Wilmot, King St., Kingston.	1 "	5	" "
			District of Toronto—T. Kidd, Acting Inspector.			
Sept. 4	Table Salt	30174	Abbott & Hogart, 474 King St., East, Toronto.	1 bag.	5	Canadian Salt Co., Ltd., Windsor, Ont.
" 4	Salt	30176	J. F. Morrish, 237 Yonge St., Toronto.	2 bots.	5	Toronto Salt Works, Chas. Cooper, Manager.
" 5	"	30178	Wilber Eddy, 365½ Yonge St., Toronto.	1 lb.	10	Toronto Salt Works, Toronto.
" 6	Fine Salt	30184	Kelley Bros., 90 Queen St., Toronto.	1 tin.	10	James Lumbers, wholesale, Toronto.
" 6	Salt	30186	H. Wellstead, 185 King St., Toronto.	2 lbs.	2	Dominion Salt Agency, London, Ont., C. R. Cooper, Manager.
" 6	Crystal Salt	30188	Michie & Co., 7 King St., West, Toronto.	2 "	10	Diamond Salt Co., St. Clair, Michigan.
" 6	Acme Salt	30189	" "	3 "	10	Toronto Salt Works, 128 Adelaide St., East, Toronto.
" 7	Table Salt	30192	George Ratcliff, 864 Yonge St., Toronto.	5 "	10	Diamond Crystal Salt Co.
" 7	"	30193	J. A. Johnston, 775 Yonge St., Toronto.	3 "	10	Leroy, New York
" 7	Acme Salt	30191	R. Higgins & Son, 802 and 804 Yonge St., Toronto.	3 "	10	Acme Salt Co., 128 Adelade St., Toronto.
			District of London—T. Kidd, Inspector.			
Aug. 24	Table Salt	30153	Canadian Salt Co., Windsor, Ont.	3 lbs.	5	Vendors
" 24	Dairy Salt	30154	" "	3 "	5	"
" 24	Packer's Salt	30155	" "	3 "	5	"

of Common Salt—*Continued.*

Inspector's Report.	Results of Analysis.						Number of Sample.	Remarks by the Analyst.
	Moisture.	Residue insoluble in Water.	Calcium Sulphate.	Calcium Chloride.	Magnesium Chloride.	Sodium Chloride; by difference.		
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.		
Labelled purest and best Windsor table salt.	0·40	0·00	1·16	0·00	0·36	98·08	29379	
	0 48	0·34	1·53	0·10	0·07	97·48	29380	
	0·20	0·00	0·85	0·10	0·00	98·85	29484	
	0·22	0·00	0·81	0·39	0 00	98·58	29487	
	0·19	0·00	1·08	0·51	0·00	98·22	29492	
	0·36	0·00	0·61	0·10	0·00	98·93	29496	
	0·24	0·00	0·91	0·45	0·00	98·40	29497	
	0·26	0·00	1·46	0·44	0·00	97·84	29498	
	0·14	0·00	0·68	0·32	0·00	98 86	29499	
	0·10	0·00	0·61	0·54	0·00	98·75	29500	
	0·16	0·00	0·88	0·71	0·54	97·71	30174	
Said to be made in Windsor; called Windsor salt.	0·24	0·00	1·22	0·51	0·37	97·66	30176	
	1·36	0·00	0·61	0·50	0·00	97·53	30178	
Called Alvena salt; made by W. H. Flett, Liverpool, Eng.	0·60	0·00	1·26	0·08	0·28	97.78	30184	
Made in Sarnia, Ont.	0·22	1·51	1·56	0·16	0·08	96·47	30186	
	0·06	1·70	0·80	0·21	0·00	97·23	30188	
A fine table salt; called Acme salt	0·44	1·52	1·08	0·75	0·18	96·03	30189	Insoluble residue starch.
	0·18	1·52	0·85	0 74	0·16	96·55	30192	
Branded pure salt; called Leroy brand; made in Leroy, N.Y.	0·50	1·05	1·40	0·10	0·07	96·88	30193	Starch in insoluble residue.
Branded pure and will not harden	0·50	1·54	1·50	0·0	0·00	96·46	30194	Insoluble residue is starch.
	2·20	0·00	1 36	0·88	0·00	95·56	30153	
	0·40	0·00	0·54	0 59	0·00	98·47	30154	
	0·78	0·00	1·25	0·65	0·00	97·32	30155	

RESULTS of Examining 87 Samples

Date of Collection.	Nature of Sample.	Number of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Value.	Name and Address of Manufacturer or Furnisher.
1906.			*District of London*—Con.		Cts.	
" 25	Dairy Salt.....	30162	George A. Young, Chatham, Ont.	1 jar.	12	Western Salt Co., Mooretown, Ont.
" 25	"	30163	Edward O'Flaherty, Stratford, Ont.	3 lbs.	5	Dominion Salt Co., London, Ont.
" 27	Coarse Salt.....	30165	Western Canada Flour Mills Co., Goderich, Ont.	2 "	5	Vendors..... .....
" 27	Common Salt.....	30166	J. W. Irwin, Clinton, Ont.	2 "	5	Richard Ransford, Clinton, Ont.
" 28	Medium Fine Salt...	30169	W. E. Kerslake, flour and feed merchant, Seaforth, Ont.	2 "	5	Dominion Salt Co. Agency, London, Ont.
			District of Manitoba—W. M. Conklin, Inspector.			
Oct. 17	Salt, Cerebos.....	25799	K. McKenzie & Co., Winnipeg.	1 lb.	10	Cerebos, Ltd., London, Eng.
" 17	Salt.....	25800	Campbell Bros. & Wilson, Winnipeg.	3 "	.....	The Canadian Salt Co., Windsor, Ont.
" 17	Dairy Salt.....	25902	J. R. Cole, St. Boniface...	2¼ "	.....	" "
" 17	Salt.....	25901	Hicks Bros., Winnipeg....	3 "	.... .	" "
" 17	Dairy Salt.....	25903	T. Pelletier, St. Boniface.	2½ "	.....	Port Huron Salt Co., Port Huron, Mich.
" 17	"	25904	J. L. Collin, St. Boniface.	2½ "	.....	The Canadian Salt Co., Windsor, Ont.
			District of Calgary—W. Fletcher Inspector.			
Sept. 12	Table Salt...	28688	G. F. & J. Galt, wholesale, Calgary.	3 sa'ks	15	Canadian Salt Co., Windsor, Ont.
" 12	"	28689	Codville, Smith Co., wholesale, Calgary.	3 "	15	Western Salt Co., Mooretown, Ont.
" 12	"	28690	Campbell, Wilson & Horne, wholesale, Calgary.	3 "	15	Canadian Salt Co., Windsor, Ont.
" 12	"	28691	A. Newham, retail, Calgary.	3 "	30	" "
			District of British Columbia—E. B. Parkinson, Inspector.			
Aug. 29	Table Salt.....	28175	Kelly, Douglas & Co., Ltd., wholesale, Vancouver, B.C.	3 sa'ks	5	Worcester Salt Co., New York, U.S.

of Common Salt—*Continued.*

Inspector's Report.	Results of Analysis.						Number of Sample.	Remarks by the Analyst.
	Moisture.	Residue Insoluble in Water.	Calcium Sulphate.	Calcium Chloride.	Magnesium Chloride.	Sodium Chloride; by difference.		
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.		
Called extra salt and put up in glass bottles.	0·20	1·90	0·91	0 84	0 00	96.15	30162	
Manufactured by Dominion Salt Co..	1·60	0·00	1·44	0·92	0·00	96·04	30163	
Manufactured by vendors..	4·64	0·00	1·52	0·84	0·00	93·00	30165	
" vendor	1·44	0·31	1·22	0·23	0·04	96·76	30166	
Made in Stapleton, near Clinton, Ont.	1·70	0·19	1·33	0·10	0 04	96·64	30169	
....	0·52	6·40	0·14	0·00	0·00	91·50	25799	The chloride of sodium was estimated directly in this sample. The insoluble is mostly alumina and phosphate. There is an excess of sulphuric acid which is no doubt combined with alumina.
....	0·12	0·00	0·71	0·49	0·00	98·68	25800	
....	0·08	0·00	1·02	0·24	0·00	98·66	25902	
....	0·64	0·10	1·93	0·33	0·00	97·00	25901	
....	0·80	0·00	1·66	0·23	0·00	97·31	25903	
....	0·30	0·00	1·08	0·19	0·00	98·43	25904	
....	0·20	0·00	1·22	0·79	0 22	97·57	28688	
....	0·28	0·00	0·81	0·13	0·43	98·35	28689	
. .. .	0·24	0·00	1·50	0·16	0·25	97·85	28690	
....	0.18	0·00	1·29	0·74	0·12	97·67	28691	
Worcester salt is made in such a way that it is impossible for it to be unclean or impure. While, best of all, it can be sold to families at about the same price as any other, and is stronger than other kinds. It is really most economical.	0·44	0·00	1·88	0·76	0·16	96·76	28175	

RESULTS of Examining 87 Samples

Date of Collection.	Nature of Sample.	Number of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Value.	Name and Address of Manufacturer or Furnisher.
1906.			*District of British Columbia* —Con.		Cts.	
Aug. 29	Dairy Salt	28178	The Hudson Bay Co., wholesale merchants, Vancouver, B.C.	3 lbs.	5	W. A. Anderson, agent, Vancouver, B.C.
" 29	"	28179	E. W. Leeson Co., wholesale grocers, Vancouver, B.C.	2 "	10	Union Pacific Salt Co., San Francisco, Cal.
" 30	Table Salt	28182	The London Grocery, retail, Granville St., Vancouver, B.C.	3 "	10	The Canadian Salt Co., Windsor, Ont.
" 30	"	28184	J. F. May, retail, Pender St., Vancouver, B.C.	1 tin.	20	Cerebos, Ltd., Newcastle-on-Tyne and London..

of Common Salt—*Concluded.*

Inspector's Report.	Results of Analysis.						Number of Sample.	Remarks by the Analyst.
	Moisture.	Residue Insoluble in Water.	Calcium Sulphate.	Calcium Chloride.	Magnesium Chloride.	Sodium Chloride; by difference.		
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.		
Australian dairy salt; did not know manufacturer. No brand or mark on sacks.	0·28	0·38	1·03	0·39	0·02	97·90	28178	
Union Pacific Salt Co., 'Eagle Brand.' Guaranteed dairy salt.	0·14	0·00	0·47	0·41	0·00	98·98	28179	
'Windsor Brand.' This salt consists of purely sifted natural crystals, and is infinitely superior to the ground salt heretofore sold. It is absolutely pure and will not cake like other salt in damp weather.	0·32	0·00	1·63	0·02	0·00	98·03	28182	
'Cerebos salt' brand contains among other ingredients, mixed phosphates, constituting the food strength of bran (usually thrown away), forming the substance of bone, brain and nerve.	0·80	*5·82	0·96	0·00	0·00	92·20	28184	Total 99·78. This residue contains phosphate and *5.82 alumina, Na Cl. was determined directly in this sample.

APPENDIX E.

BULLETIN No. 129—TOMATO CATSUP.

OTTAWA, December 15, 1906.

W. J. GERALD, Esq., Deputy Minister of Inland Revenue.

SIR,—I beg to submit the following report regarding the collection of samples of tomato catsup which was authorized by you in August last. The following list gives the number of samples and where collected :—

Inspection District.	No. of Samples.
Nova Scotia	3
Prince Edward Island	2
New Brunswick	3
Quebec	4
St. Hyacinthe	4
Montreal	6
Ottawa	5
Kingston	4
Toronto	5
London	4
Manitoba	4
Calgary	2
British Columbia	3
	49

All the details concerning these samples and their examination in this laboratory are given in the tabular statement appended to this report, in which I have also incorporated my remarks regarding the results of the analyses. I have inclined to the opinion that those samples, in the manufacture of which a dye has been used, are 'adulterated according to the Act.' This judgment would not be based upon the injurious nature of the dye, but because its use is prohibited by the Adulteration Act. Section 1 (*e*) (8) of the latter provides that 'food shall be deemed to be adulterated within the meaning of this Act, if it is so coloured or coated or polished or powdered that damage is concealed, or if it is made to appear better or of greater value than it really is.' According to information obtained from manufacturers, the use of a dye is unnecessary when the catsup is made from fresh tomatoes. It is when the fruit is 'out of season' and the pulp has to be kept in stock for a considerable time that the colour suffers and the use of a dye becomes necessary. In such cases it might be reasonably inferred that they have been coloured to conceal damage, or that the dye has been used to make the article appear of greater value than it really is, and consequently that the word 'adulterated' should be applied. Nevertheless, not being willing to take the responsibility of making such inferences, I have inserted the remark, 'adulteration doubtful.' Twenty-three out of the forty-nine samples were found to be dyed and consequently thus 'adulterated.'

Some of the samples referred to are not only dyed but contain preservatives. In nineteen other samples which contained no foreign colouring matter, small quantities of preservatives were also found. Granting that the latter as used are not injurious to health, it can of course be maintained that they are required for the production of the catsup 'in a state fit for consumption.' (*See* Adulteration Act 2 (*g*) (1). But even in that case the law requires that they should be 'distinctly labelled as a mixture.' Since this has not been done, except in one case, No. 26892, Montreal, I have stated the opinion in the tabulated statement that eighteen of the samples referred to are 'adulterated,' giving the reason. The remaining seven samples in which foreign colouring matter and preservatives were not found, together with No. 26892 above mentioned, I have characterised as unadulterated. The classification therefore stands as follows :—

Unadulterated	8
Not marked 'mixture'	18
Adulteration doubtful	23
Total	49

From the tabulated statement it will be seen that these samples vary very considerably in the amount of solids they contain, which must certainly affect their value as condiments. This percentage varies from 7·44 to 29·04, and indicates great differences in the quantities of materials used to make a certain amount of product. There are also variations as regards the quality of the solids, which are shewn in the following table as the results of examining eighteen of the samples, taken almost at random, and subjected to treatment in crysotile fibre :—

Number of sample.	Total solids.	Water.	Solids soluble in alcohol.	Solids soluble in water after alcohol.	Insoluble residue.	Percentage of insoluble residue to total solids.	Nitrogen in alcohol extract.
	p.c.	p.c.	p.c.	p.c	p.c.	p.c.	p.c.
28322	22·80	77·20	16·32	5·68	0·80	3·51	undet.
24271	17·26	82·74	13·36	2·72	1·18	6·84	0·22
732	11·50	88·50	6·84	2·16	2·50	21·74	0·20
479	8·10	91·90	4·60	1·72	1·78	21·97	0·19
26892	17·90	82·10	12·50	4·70	0·70	3·91	0·93
29363	26·44	73·56	17·12	8·68	0·64	2·42	0·74
29371	25·76	74·24	21·00	3·16	1·60	6·21	0·12
29372	16·52	83·48	11·36	3·50	1·66	10·05	0·14
32305	13·20	86·80	9·26	2·50	1·44	11·06	0·93
29495	20·26	79·74	15·60	4·00	0·66	3·25	undet.
30160	23·34	76 66	17·44	4·60	1·30	5·57	0·20
25921	10·08	89·92	6·56	1·74	1·78	17·66	0·89
25922	15·74	84·26	10·86	3·78	1·10	6·99	0·94
25923	9·92	90·08	3·88	3·00	3·04	30·64	0·94
25924	20·70	79·30	16·40	3·08	1·22	5·89	0·85
28696	15·80	84·20	10·70	4·54	1·02	6·45	0·56
28697	21·40	78·60	15·00	5·76	0·60	3·08	0·64
28176	17·30	82·70	10·56	6·20	0·54	3·12	undet.

The remarkable feature brought out by these tests is the large amounts of substances in the total solids which are soluble in alcohol and water. In the preparation of tomato ketchup a large amount of the vegetable fibre which the original raw material contains seems to be rendered soluble. In twelve out of eighteen samples examined the amount of total solids in an insoluble condition does not exceed 7 per cent. In four out of the remaining six samples the insoluble varies from 17·66 to 30·64 per cent. Whether these differences have any particular meaning is a question which may well be reserved for future investigation.

Meanwhile the results of certain experiments for making 'catsup' from other vegetables may here be put on record. In treating these the following process was adopted, which is taken from Mrs. Lincoln's Boston Cook Book :—'Boil one bushel of ripe tomatoes, skins and all, and when soft strain through a colander to remove the skins only. Mix one cup of salt, two pounds of brown sugar, half an ounce of cayenne pepper, three ounces each of ground allspice, mace and celery seed, two ounces of ground cinnamon and stir into the tomato. Add two quarts of best cider vinegar, and when thoroughly mixed strain through a sieve. Pour all that runs through into a large kettle and boil slowly till reduced one half. 'Put into small bottles and keep in a cool dark place.' Catsups from apple, turnip and pumpkin pulp were made by following this recipe, and the products gave the following results when tested in the same manner as the above mentioned eighteen samples :—

—	Total solids.	Water.	Substances soluble in alcohol.	Soluble in water after alcohol.	Insoluble residue.	Percentage of insoluble residue in total solids.	Nitrogen in alcohol extract.
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.
Apple.....	12·40	87·60	9·66	1·92	0·82	6·61	0·87
Turnip....	17·42	82·58	12·80	2·30	2·32	13·31	1·02
Pumpkin....	12·80	87·20	9·30	1·78	1·72	13·42	0·93

In conclusion I have to report that all the results herein described have been obtained under my directions by Mr. A. Lemoine, assistant analyst. Recommending the publication of this report, I have the honour to be, sir, your obedient servant,

 THOMAS MACFARLANE, *Chief Analyst.*

7-8 EDWARD VII., A. 1908

RESULTS OF EXAMINING 49

DISTRICT OF NOVA SCOTIA—

Date of Collection	Nature of Sample.	Number of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Value.	Name and Address of Manufacturer or Furnisher.
1906.					$ c.	
Aug. 28..	Tomato catsup..	27479	W. E. Crowe & Co., Halifax	3 bots..	30	Aylmer Canning Co., Aylmer, Ont.
" 30..	Homemade " ..	27483	Lovitt & Lovitt, Yarmouth, N.S.	3 " ..	0 75	T. A. Snider Preserve Co., Cincinatti, Ohio, U.S.A.
" 31..	Tomato catsup..	27485	Wm. Law & Co., Yarmouth	3 " ..	0 38	VanCamp Packing Co., Indianapolis, U.S.

DISTRICT OF PRINCE EDWARD

Aug. 23..	Tomato catsup..	28322	Jenkins & Son, Charlottetown.	3 bots..	0 45	Grantham Preserve Works, St. Kitts.
" 23..	" " ..	28323	Stewart & Son, Charlottetown.	3 " ..	0 60	Pure Gold Manufacturing Co., Toronto.

DISTRICT OF NEW BRUNSWICK—

Aug. 23..	Tomato ketchup.	24270	Dearborn & Co., 95 Prince William St., St. John, N.B.	3 bots..	0 75	Aylmer Canning Co., Aylmer, Ont.
" 23..	" " ..	24271	Vanwart Bros., cor. Duke and Charlotte Sts., St. John, N.B.	3 " ..	1 05	Curtice Bros. Co., Rochester, N.Y., U.S.A.
" 23..	" " ..	24272	William Baxter, cor. Leinster and Carmarthen Sts., St. John, N.B.	3 " ..	0 75	Flynn Bros., Garden City Canning Co., St. Catharines, Ont.

DISTRICT OF QUEBEC—

Sept. 10..	Tomato catsup..	726	Syndicat de Fraserville, Fraserville, Que.	3 bots .	0 60	Not known.... .....
" 11..	" " ..	728	The Dixon Café, Rimouski, Que.	3 " ..	0 45	Hudon, Hebert et Cie, Montreal.
" 14..	" " ..	731	L. P. Demers, Que.....	3 " ..	0 30	J. B. Renaud et Cie, Que.
" 14..	" " ..	732	Leandre Faucher, Quebec..	3 " ..	0 45	Quebec Preserving Co., Q.

SESSIONAL PAPER No. 14

SAMPLES OF TOMATO CATSUP.

R. J. WAUGH, INSPECTOR.

Inspector's Report.	Results of Analysis.							Remarks by the Chief Analyst.
	Total Solids.	Total Ash.	Acidity stated as Acetic Acid.	Coal Tar Dyes.	Preservatives.			
					Salicylic Acid.	Benzoic Acid.	Sulphurous Acid.	
	p. c.	p. c.	p. c.					
Sold as Canada First brand	25·90	3·28	1·20	Doubtful.	None ..	Present.	Present.	Not marked as a 'mixture,' and therefore adulterated.
The vendors are wholesale dealers.	22·40	3·70	1·08	None ..	" ..	" .	None ..	" "
" " .	25·30	2·50	1·44	Present.	" ..	" .	" ..	Adulteration doubtful.

ISLAND—T. MOORE, INSPECTOR.

'Puritan' brand	27·42	6·96	1·20	Doubtful.	None ..	None ..	Trace.	Unadulterated.
....	13·72	2·16	0·72	None ..	" ..	Present.	None ..	Not marked as a 'mixture,' and therefore adulterated.

J. C. FERGUSON, INSPECTOR.

Labelled 'Long Island Ketchup.' Bottled by Dearborn & Co., St. John, N.B	23·34	3·90	1·44	None ..	None ..	Present.	Present.	Not labelled 'mixture,' and therefore adulterated.
Labelled Curtice Bros. Blue Label; guaranteed free from artificial colour; contains $\frac{1}{10}$ of 1 p.c. benzoate soda.	17·72	3·62	0·90	" ..	" ..	" .	" .	" "
Labelled Flinn Bros. Tomato Ketchup, Garden City Canning Co., St. Catharines, Ont.	18·56	3·62	0·90	" ..	" ..	" .	None ..	" "

C. E. ROY, INSPECTOR.

Labelled 'Puritan Brand'; Grantham Preserve Works, St. Kitts.	15·28	7·66	1·20	Doubtful ...	None ..	Present.	Present.	Not labelled 'mixture,' and therefore adulterated.
" " ..	23·60	3·26	1·20	None ..	" ..	" .	" .	" "
Labelled 'Canada First'; Aylmer Canning Co.	21·68	3·34	0·90	" ..	" ..	" .	" .	" "
Labelled 'Favorite Hot Stuff.'	11·30	3·26	1·20	Present.	" ..	" .	None ..	Adulteration doubtful.

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RESULTS OF EXAMINING 49

DISTRICT OF ST. HYACINTHE—

Date of Collection	Nature of Sample.	Number of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Value.	Name and Address of Manufacturer or Furnisher.
1906.					$ c.	
Aug. 21..	Tomato catsup..	476	J. O. Daviautt, Berthierville, Que.	3 bots..	0 45	T. A. Lyttle Co., Ltd., Toronto, Ont.
" 21..	" " 'Canada First.'	477	L. Provost, L'Epiphanie, Que.	3 " .	0 39	Aylmer Canning Co., Aylmer, Ont.
" 22..	Tomato catsup..	478	P. N. Chailleg, Shawenegan Falls, Que	3 " ..	0 30	Not known. .. ..
" 23..	" ketchup. 'Tiger Brand.'	479	Grenier et Paquin, Grand Mère, Que.	3 " ..	0 30	Jos. Lamoureux, Montreal, Que.

DISTRICT OF MONTREAL—

Aug. 28..	Tomato catsup..	31511	J. A. Perreault & Co., 40 Plessis St., Montreal.	3 bots..	0 15	Vendors.....
" 28..	" ketchup.	31512	A. A. Lapierre, 773 Notre Dame East, Montreal.	3 " ..	0 25	" .....
" 28..	" catsup..	31513	Joseph Dubois, 554 Notre Dame, Maisonneuve, Que.	3 " ..	0 30	W. Lorain, Labord à Plouffe, Que.
Sept. 1..	" " ..	31514	Antoine St. Denis, Ste. Anne de Bellevue, Que.	3 " ..	0 30	Aylmer Canning Co., Aylmer, Ont.
" 11..	" ketchup.	31515	McRae Bros., Richmond, Que.	3 " ..	0 60	Lyon Silverman, Montreal
Nov. 22..	" catsup..	26892	St. Lewis Preserving Co., Colonial Ave., Montreal.	3 " ..	0 25	.....

DISTRICT OF OTTAWA—

Sept. 10..	Tomato catsup..	29363	Alex. Larose, 128 Queen St. West, Ottawa.	3 bots..	0 45	Aylmer Canning Co., Aylmer, Ont.
" 10..	Catsup	29371	Kennedy & Co., Wellington St., Ottawa.	3 " ..	0 60	Pure Gold Co., Toronto, Ont.
" 10..	"	29372	" " ..	3 " .	0 60	" " ..
" 10..	Tomato catsup..	29373	" " .	3 " ..	0 75	T. A. Lyttle & Co., Toronto, Ont.
Nov 27..	" " ..	32305	D. J. McCullough, 231 Kent St., Ottawa.	2 " ..	0 20	Canada Preserving Co., Ltd.. Hamilton, Ont.

SESSIONAL PAPER No. 14

SAMPLES OF TOMATO CATSUP—*Continued.*

J. C. ROULEAU, INSPECTOR.

Inspector's Report.	Results of Analysis.							Remarks by the Chief Analyst.
	Total Solids.	Total Ash.	Acidity stated as Acetic Acid.	Coal Tar Dyes.	Preservatives.			
					Salicylic Acid.	Benzoic Acid.	Sulphurous Acid.	
	p. c.	p. c.	p. c.					
Labelled 'Sterling Brand.'	18·04	2·42	1·20	Present.	None ..	Present.	Present.	Adulteration doubtful.
Prepared from fresh ripe tomatoes; delightfully blended with spices.	26·16	2·98	1·20	Doubtful.	" ..	Doubtful.	None ..	Unadulterated.
Label does not mention name of maker.	9·12	2·62	1·32	Present.	" ..	None ..	" ..	Adulteration doubtful.
Put up in bottles that had been used for cocoa marianí of Paris. Manufacturer's name not marked on label.	8·62	2·58	0·96	" .	" ..	" ..	" ..	" "

J. J. COSTIGAN, INSPECTOR.

Taken from stock at factory	7·44	3·40	0·90	Present.	Present.	None ..	None ..	Adulteration doubtful.
Taken from stock at factory; labelled 'Celebrated Club Brand.'	10·90	2·70	1·32	" .	None ..	" .	" ..	" "
Bears a certificate by Prof. J. E. Morrison that samples have been found 'pure, free from all injurious colouring matter and antiseptic.'	11·34	3·10	1·02	" .	" ..	Present.	" ..	" "
'Canada First' brand.....	21·80	3·14	1·20	None ..	" ..	" .	" ..	Not marked as a 'mixture,' and therefore adulterated.
1905 stock; labelled 'New Process.'	16·88	1·84	0·60	Present.	" ..	" .	" ..	Adulteration doubtful.
No colouring; wholesale price, 90c. per doz.; marked 'Compound.'	17·80	2·30	0 72	None ..	Present.	None ..	" ..	Unadulterated; admixture being declared.

A. E. SANDERSON, INSPECTOR.

Labelled 'Canada First' brand; prepared from fresh ripe tomatoes; last year's make.	26·44 Pt. 23·76	2·92 2 30	0·84	None ..	None ..	Present.	None .	Not labelled 'mixture,' and therefore adulterated.
Labelled 'Pure Gold Sweet Catsup.'	8·56	2·58	0·60	Present.	" ..	" .	" ..	Adulteration doubtful.
Labelled 'Pure Gold Hot Stuff.'	17·46	2·10	0 96	None ..	" ..	" .	" ..	Not marked 'mixture,' and therefore adulterated.
Labelled 'Canada Brand.'.	20·90	2·82	0·90	Present.	" ..	None ..	Present.	Adulteration doubtful.
Labelled 'Graham's Lilly Brand Tomato Catsup.' Genuine homemade; absolutely pure. Trade mark registered.	13·02	3·12	0·66	" .	" ..	Doubtful.	None ..	" "

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RESULTS OF EXAMINING 49

DISTRICT OF KINGSTON—

Date of Collection	Nature of Sample.	Number of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Value.	Name and Address of Manufacturer or Furnisher.
1906.					$ c.	
Aug. 21..	Catsup	29483	C. S. Litton, Alfred St., Kingston, Ont.	3 bots..	0 45	H. J. Heinz, Pittsburg, Pa.
" 21..	Tomato catsup..	29490	F. Ostler, Johnston St., Kingston, Ont.	3 " ..	0 30	The T. A. Lyttle Co., Toronto, Ont.
" 21..	" " ..	29491	H. A. Smith, Brock, St., Kingston, Ont.	3 " ..	0 30	Aylmer Canning Co., Aylmer, Ont.
" 21..	" ketchup.	29495	F. A. Allan, Alfred St., Kingstou, Ont.	3 " ..	0 45	Standard Canning Co., Hamilton, Ont.

DISTRICT OF TORONTO—

Sept. 4...	Tomato catsup.	30171	J. Butcher, cor. Queen and John Sts., Toronto.	3 bots..	0 45	Oshawa Canuing Co., Oshawa, Ont.
" 4...	" " ..	30173	W. R. Black, 360 Queen St., Toronto.	3 caus..	0 30	Bought from Eby, Blain & Co., Toronto.
" 4...	" " ..	30175	Wm. Davies & Co., 418 King St. East, Toronto.	3 bots..	0 30	Vendors
" 5...	" " ..	30179	T. Eatou & Co., Yonge St., Toronto.	3 tins..	0 15	Essex Canning and Preserving Co., Ltd.
" 5...	" " .	30181	R. Simpson & Co., Yonge St., Toronto.	3 bots..	0 30	Aylmer Canning Co., Aylmer, Ont.

DISTRICT OF LONDON—

Aug. 24..	Tomato catsup..	30152	George A. Nairen, Windsor, Ont.	3 bots..	0 30	Somerville & Co., Hamilton, Ont.
" 25..	" " ..	30160	John McCoville & Son, Chatham, Ont.	3 " ..	0 30	Aylmer Canning Co., Aylmer, Ont.
" 25..	" ketchup.	30164	Edward O'Flaherty, Stratford, Ont.	3 " ..	0 30	A. F. McLaurin Co., Toronto, Ont., agents for Canada.
" 27..	" catsup..	30167	J. W. Irwin, Clinton, Ont.	3 " ..	0 30	John Slone. wholesale grocer, Toronto, Ont.

DISTRICT OF MANITOBA—

Nov. 23 .	Tomato catsup..	25921	White Star Manufacturing Co., Winnipeg.	1 quart.	0 15	Vendors .....
" 23..	" " ..	25922	Blackwoods, Ltd., Winnipeg.	1 " ..	0 25	" ....
" 23..	" " ..	25923	The Dyson Co., Winnipeg.	1 " ..	0 15	" .....
" 23..	" " ..	25924	Jobin, Marrin Co., Winnipeg.	2 lbs....	0 10	Delhi Fruit and Vegetable Canning Co., Delhi, Ont.

SESSIONAL PAPER No. 14

SAMPLES OF TOMATO CATSUP—*Continued.*

J. HOGAN, INSPECTOR.

Inspector's Report.	Results of Analysis.							Remarks by the Chief Analyst.
	Total Solids.	Total Ash.	Acidity stated as Acetic Acid.	Coal Tar Dyes.	Preservatives.			
					Salicylic Acid.	Benzoic Acid.	Sulphurous Acid.	
	p.c.	p.c.	p.c.					
....	19·40	2·80	1·20	None ..	None ..	Present.	None .	Not marked 'mixture,' and therefore adulterated.
Labelled 'Canada Brand.'	16·80	2·80	1·32	Present.	" ..	Doubtful.	Present.	Adulteration doubtful.
Labelled 'Canada First.'..	23·84	3·30	0·90	None ..	" ..	" ..	Trace...	Unadulterated.
Labelled 'Old Church.'...	24·56	7·80	0·90	" ..	" ..	Present.	None ..	Not marked as a 'mixture,' and therefore adulterated.

T. KIDD, ACTING INSPECTOR.

'Royal Navy' brand.....	29·04	3·80	0·72	Present.	None ..	None ..	None ..	Adulteration doubtful.
Labelled 'Lorne brand, West Lorne Canning and Evaporating Co.'	13·34	3·56	0·78	" ..	" ..	" ..	" ..	" "
Labelled 'Davies, Toronto'	17·80	2·34	1·32	" ..	" ..	" ..	" ..	" "
Essex Brand Canning and Preserving Co.	17·80	2·44	0·42	None ..	" ..	Present.	" ..	Not labelled 'mixture,' and therefore adulterated.
Marked 'Canada First'...	22·84	2·74	0·78	" ..	" ..	" ..	" ..	" "

T. KIDD, INSPECTOR.

Branded 'Champion'....	14·82	4·02	0·90	Present.	None ..	Present.	None ..	Adulteration doubtful.
Called 'Canada First'....	23·92	2·00	0·96	None ..	" ..	" ..	Present.	Not labelled 'mixture,' and therefore adulterated.
Labelled 'Wade's Home-made; The Tip-top Ketchup Co., Cincinnati, Ohio, U.S.A.'	12·50	2·70	0·96	" ..	" ..	None ..	None ..	Unadulterated.
'Defiance' brand.....	26·70	2·20	0·78	" ..	" ..	" ..	" ..	"

W. M. CONKLIN, INSPECTOR.

....	10·16	1·60	0·90	Present.	None ..	Doubtful.	None .	Adulteration doubtful.
....	15·84	2·30	1·20	None ..	" ..	Present.	" ..	Not labelled 'mixture,' and therefore adulterated.
... ...	9·74	2·14	1·20	Present.	Present.	None .	" ..	Adulteration doubtful.
....	20·62	1·86	1·08	None .	None ..	" ..	" ..	Unadulterated.

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RESULTS OF EXAMINING 49

DISTRICT OF CALGARY—

Date of Collection	Nature of Sample.	Number of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Value.	Name and Address of Manufacturer or Furnisher.
1906.					$ c.	
Sept. 12..	Tomato catsup..	28696	L. T. Newburn, wholesale, Calgary.	3 bots..	0 45	T. A. Lyttle Co., Ltd., Toronto, Ont.
" 12..	" " ..	28697	G. F. & J. Galt, wholesale, Calgary.	3 " ..	0 45	Taylor & Pringle, Owen Sound, Ont.

DISTRICT OF BRITISH COLUMBIA—

Aug. 29..	Tomato catsup..	28176	W. H. Malkin Co., Ltd., wholesale grocers, Vancouver, B.C.	3 bots..	0 65	Libby, McNeill & Libby, Chicago, U.S.A.
29..	" ketchup.	28181	H. Albert, Carrol St., retail, Vancouver, B.C.	3 " ..	0 75	Brady, Houston Packing Co., Victoria, B.C.
0..	" " ..	28183	The London Grocery, Granville St., retail, Vancouver, B.C.	3 " ..	0 45	Standard Canning Co., Hamilton, Ont.

SESSIONAL PAPER No. 14

SAMPLES OF TOMATO CATSUP—*Concluded.*

W. FLETCHER, INSPECTOR.

Inspector's Report.	Results of Analysis.							Remark by the Chief Analyst.
	Total Solids.	Total Ash.	Acidity stated as Acetic Acid.	Coal Tar Dyes.	Preservatives.			
					Salicylic Acid.	Benzoic Acid.	Sulphurous Acid.	
	p.c.	p.c.	p.c.					
Labelled 'Sterling Brand'.	Pt. 14·86	2·70 1·56	1·20	Present.	None ..	None ..	Present.	Adulteration doubtful.
.....	Pt. 19.80	3·00 1·64	0·96	" ..	Present.	" ..	None ..	" "

E. B. PARKINSON, INSPECTOR.

Labelled 'Libby's'..	18·17	2·50	1·20	None ..	None ..	None ..	None ..	Unadulterated.
'Bar Harbour' brand, finest quality catsup in the market.	Pt. 16·54 25·50	3·60	0·90	Present.	" ..	Present.	" ..	Adulteration doubtful.
Labelled 'Old Church' ...	12·44	2·44	0·60	" ..	" ..	" ..	" ..	" "

APPENDIX F.

BULLETIN No. 130—TEA, 1906.

Ottawa, January 8, 1907.

W. J. Gerald, Esq.,

Deputy Minister of Inland Revenue.

Sir,—In the month of July last representations were made to you regarding the artificial colouring of teas, and stating that large quantities of artificially coloured green, Japan and Ceylon teas were imported into the Canadian market by every steamer. The complaints came from Toronto, and although it was believed that such colouring or 'facing' was not a common practice, it was nevertheless thought advisable to cause a collection of tea samples to be made. This took place in August and September, 1906, when samples were collected and subjected to examination in this laboratory, the results of which, as ascertained by Mr. A. Valin, are given in the tabulated statement accompanying this report.

In considering these results it is necessary to remember that there exists an Order in Council, dated September 11, 1894, establishing the following regulation under the 19th section of the Adulteration Act as to when the tea shall be considered as adulterated :—

> Tea shall be considered as adulterated which contains leaves other than those of the tea-plant ; or previously infused leaves or leaves of inferior quality to such an extent as to reduce the amount of extract or substances soluble in hot water to less than thirty per cent, or cause the proportion of ash soluble in hot water to be less than two and three quarters per cent ; or any admixture of chemicals or other deleterious substances, or such an amount of mineral matter as will cause the amount of ash to exceed eight per cent reckoned on the sample dried at 100° C.

It has not been found necessary to introduce into the statement a column giving the amount of ash calculated on the dry substance. The highest percentage of ash found in any sample is 7·20 (No 713) which corresponds to 7·87 on the dry substance. This result disposes of the assertion that many of the teas sold in our markets are artificially coloured or 'faced' because the materials used for the purpose tend to increase the quantity of ash. Neither was any evidence of facing obtained in treating the samples with warm water. Seven of the samples (Nos. 31505, 31508, 29366, 30182, 30161, 28177 and 28180) show smaller percentages of soluble ash in the dried sample than 2·75, but since the amount of hot water extract is not below the minimum they cannot be challenged as containing exhausted tea leaves, although they may be classed as doubtful.

On the whole it has to be stated that there is no evidence of adulteration to be found in the samples collected, although there are no doubt great variations as regards quality. This favourable showing is to be expected in view of the fact that the following clause under 'Prohibited Goods' still forms part of the Customs Tariff :—'1205. 'Tea adulterated with spurious leaf or with exhausted leaves, or containing so great an 'admixture of chemicals or other deleterious substances as to make it unfit for use.' Nevertheless it is necessary that great care should be exercised in the inspection of teas

as they arrive at the ports of entry, because, according to the report of the Principal Chemist of Great Britain for the year ended March 31, 1906 (page 7), 'of the 2,917 samples (of tea) examined, 259 were reported against, chiefly on account of the presence of foreign substances.' It is not impossible that some of these rejected lots might find their way to Canada.

It has not been found necessary in the tabulated statement to employ a column for remarks. The following is a classification of the samples which also gives the districts where they were obtained.

Name of Inspection District.	Genuine.	Doubtful.	Total of Samples.
Nova Scotia	5	0	5
Prince Edward Island	2	0	2
New Brunswick	5	0	5
Quebec	8	0	8
St. Hyacinthe	8	0	8
Montreal	8	2	10
Ottawa	7	1	8
Kingston	8	0	8
Toronto	9	1	10
London	7	1	8
Manitoba	8	0	8
Calgary	4	0	4
British Columbia	3	2	5
	82	7	89

I have the honour to be, sir,

Your obedient servant,

THOMAS MACFARLANE,

Chief Analyst.

DESCRIPTION OF, AND RESULTS OF

DISTRICT OF NOVA SCOTIA—

Date of Collection.	Nature of Sample.	Number of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Price.	Name and Address of Manufacturer or Furnisher.
1906.					cts.	
Aug. 28..	Black Tea....	27475	J. F. Crowe & Co., Halifax.	¾ lb.	25	Vim Tea Co., St. John, N.B.
" 28..	" "	27478	H. Wentzell & Co. "	¾ "	25	Blended by vendor.
" 29..	" "	27480	Jas. McGregor "	1 "	40	Bauld Bros. & Co., Halifax.
" 30..	Green Tea.....	27484	Lovitt & Lovitt, Yarmouth, N.S.	1 "	50	W. F. Hatheway, St. John, N.B.
" 31..	Black Tea.....	27488	Cain Bros., Yarmouth, N.S.	¾ "	25	T. Wood & Co., Montreal.

DISTRICT OF PRINCE EDWARD ISLAND—

Aug. 23..	Tea, Black.....	28320	Sanderson & Co., Charlottetown.	1 lb.	25	Estabrook, St. John, N.B.
" 23..	" "	28321	Beer & Goff, Charlottetown.	1 "	25	H. Haszard, Charlottetown P.E.I.

DISTRICT OF NEW BRUNSWICK—

Aug. 21..	Tea, Black.....	24265	The Vim Tea Co., Ltd., Ward St., St. John, N.B.	1½ lb.	53	The Vim Tea Co., Ltd., importers, packers and blenders, St. John, N.B.
" 21..	" "	24266	J. J. McGaffigan Co., Ltd., 55 Dock St., St. John, N.B.	1½ "	53	J. J. McGaffigan Co., Ltd., blenders and packers, 55 Dock St., St. John, N.B.
" 21..	" "	24267	Harry W. DeForrest, 16 Mill St., St. John, N.B.	1½ "	53	Harry W. DeForrest, 16 Mill St., blender and packer, St. John, N.B.
" 22..	" "	24268	Maple Leaf Tea Co., 11 Germain St., St. John, N.B.	1½ "	53	Joseph Travers & Sons, London, England.
" 22..	" "	24269	T. H Estabrooks, cor. Mill and North Sts., St. John, N.B.	1½ "	60	T. H. Estabrooks, blender and packer, cor. Mill and North Sts., St. John, N.B.

DISTRICT OF QUEBEC—

Aug. 29..	Tea, Green...	712	Alfred Belodeau, Roberval, Que.	1 lb.	40	Leclerc & Letellier, Que.
" 29 .	" "	713	Alf. Lalancet, Roberval, Que.	1 "	40	Stroud, Montreal..

SESSIONAL PAPER No. 14

EXAMINING 89 SAMPLES OF TEA.

R. J. WAUGH, INSPECTOR.

Inspector's Report.	Results of Analysis.						Botanical Examination.
	Ash.				Moisture.	Hot Water Extract.	
	Total.	Water Soluble.	Acid Soluble.	Acid Insoluble.			
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	
Sold as Vim tea. Vendor is a wholesale dealer.	6·02	3·56	2·22	0·24	8·20	38·45	Tea leaves: large, broken and stems.
Sold as 'Three Star' brand.	5·62	3·46	2·02	0·14	7·10	36·90	Tea leaves: large, broken and stems.
Sold as Queen brand...	5·48	3·50	1·80	0·18	7·25	33·05	Tea leaves: large. broken and stems.
Vendors are wholesale dealers. Taken from bulk.	5·36	3·02	1·94	0·40	7·35	34·65	Tea leaves, large.
Sold as Coronation brand. Taken from bulk.	5·68	3·02	2·48	0·18	8·25	31·15	Tea leaves very large broken.
T. MOORE, INSPECTOR.							
Red Cross blend.....	5·54	3·40	2·02	0·12	7·00	32·95	Tea leaves broken with many stems.
Hazards blend. . ..	5·48	3·24	2·08	0·16	7·10	30·50	Tea leaves medium size and broken.
J. C. FERGUSON, INSPECTOR.							
Labelled ½ lb. 'Vim tea. Indo-Ceylon tea.'	5·68	3·62	1·86	0·20	6·80	36·50	Tea leaves much broken.
Labelled 'Lea Rose blend. India and Ceylon.'	5·40	3·50	1·78	0·12	7·70	30·60	Tea leaves large; broken.
Labelled 'Union blend tea.'	5·54	3·54	1·88	0·12	7·10	32·85	Tea leaves small; broken and with many stems.
Labelled 'Maple Leaf; pure Indo-Ceylon.'	5·64	3·60	1·94	0·10	7·35	30·90	Tea leaves small; broken and stems.
Labelled 'Red Rose tea; pure Indo-Ceylon.'	5·32	3·48	1·66	0·18	7·10	36·40	Tea leaves large and broken, and stems.
C. E. ROY, INSPECTOR.							
....	6·06	3·06	1·94	1·06	7·00	32·80	Tea leaves large.
....	7·20	3·14	2·76	1·30	8·55	31·80	" and broken.

DESCRIPTION OF AND RESULTS OF

DISTRICT OF QUEBEC—

Date of Collection.	Nature of Sample.	Number of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Price.	Name and Address of Manufacturer or Furnisher.
1906					cts.	
Aug. 30..	Tea, Green.....	716	J. T. Laferriere et Cie, Incpd., Que.	1 lb.	50	Coté, Boivin et Cie, Chicoutimi.
" 30..	" Salada Ceylon....	718	Haddad & Sawaga, Chicoutimi, Que.	1 "	20	P. C. Larkin & Co., Montreal.
" 31..	" Conqueror.....	720	Odina Simard, Bagotville, Que.	1 "	40	W. D. Stroud & Sons, Montreal.
" 31..	" Ceylon.....	722	P. Chayer, Bagotville, Que.	1 "	40	N. Turcotte et Cie, Que.
Sept. 11..	" Japan	729	Arthur Ouellet, Rimouski, Que.	1 "	40	Turcotte et frère, Que.
" 12..	" Salada.....	730	Elz. Belanger, Pointeau Père, Que.	1 "	50	P. C. Larkin & Co., Montreal.

DISTRICT OF ST. HYACINTHE—

Aug. 20..	Green Tea, 'Blue Ribbon.'	460	A. C. Trempe, Sorel.....	1 lb.	30	The Blue Ribbon Tea Co., Toronto.
" 21..	Green Tea, 'Gunpowder.'	461	A. Plante, Berthierville	1 "	20	L. Chaput et fils et Cie, Montreal.
" 21..	Green Tea, Ceylon 'Salada.'	462	T. A. Mercier, L'Epiphanie.	1 "	30	Salada Tea Co., Montreal.
" 21..	Green Japanese Tea.	463	C. Barette, Joliette.....	1 "	35	E. D. Marceau, Montreal.
" 22..	Black Tea.....	464	E. Benoit, Shawenegan Falls.	1 "	40	Not known.... ...
" 23..	"	465	W. E. Chamberland & Co., Grand Mère.	1 "	25	Alf. Tyler, London, Ont.
" 23..	"	466	Grenier et Paquin, Grand Mère.	¾ "	23	Hudon, Hebert et Cie, Montreal.
" 24..	"	467	Poirier et Abran, Three Rivers.	1 "	25	L. Chaput, fils et Cie, Montreal.

DISTRICT OF MONTREAL—

Aug. 22.	Black Tea.....	31501	D. Stroud, 622 Notre Dame West, Montreal.	1 lb.	25	Vendor ... .
" 22..	"	31502	" " ..	1 "	40	" .....
" 22..	"	31503	S. T. Spindle, 502, Notre Dame West, Montreal.	1 "	40	" .....
" 23..	Japan Tea.....	31504	Plourde et Sirois, 110 St. Lawrence, Montreal.	1 "	30	T. H. Estabrooks, Montreal.
" 24..	Green Tea.....	31505	N. Beaudoin, 687 Mount Royal Ave.	1 "	25	Mathewson & Son, Montreal.

SESSIONAL PAPER No. 14

EXAMINING 89 SAMPLES OF TEA—*Continued.*

C. E. ROY, INSPECTOR—*Concluded.*

Inspector's Report.	Results of Analysis.						Botanical Examination.
	Ash.				Moisture.	Hot Water Extract.	
	Total.	Water Soluble.	Acid Soluble.	Acid Insoluble.			
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	
.....	6·28	2·92	2·70	0·66	5·95	30·60	Tea leaves large.
.....	4·88	3·12	1·68	0·08	7·10	34·70	Tea leaves small and broken.
.....	5·26	3·46	1·70	0·10	7·50	36·90	Tea leaves broken and some stems.
.....	5·08	3·14	1·84	0·10	6·85	35·40	Tea leaves broken.
.....	5·76	3·24	1·98	0·54	5·85	36·15	"
.....	4·64	2·90	1·64	0·10	7·50	36·40	Tea leaves small and broken.

J. C. ROULEAU, INSPECTOR.

Included in department's samples.	4·74	2·72	2·02	0·20	7·85	35·85	Tea leaves large and broken.
Out of a 30 lb. case....	4·90	2·64	2·14	0·12	7·65	30·85	Tea leaves.
Guaranteed as pure, uncolored by the Salada Tea Co.	4·72	2·96	1.68	0·08	8.10	38·40	Tea leaves large and broken.
Out of 80 lb. case.....	5·74	2.72	2·52	0·50	7·65	33·20	" "
.....	4·84	2·98	1·80	0·06	8·65	33·40	Tea leaves and stems; the former large and broken.
Box marked $\frac{P}{O}$ O. T. & C., London, Piplagool 2949.	4·92	3·20	1.72	0·00	8·85	29·15	Tea leaves very large but broken.
Out of a 45 lb. case, marked Horton Ceylon Pekoe, $\frac{H\ H}{}$ Montreal.	4·96	3·28	1·62	0·06	8·85	31·25	Tea leaves broken.
Box marked choice, first crop, Packling Concon $\frac{S\ H}{E\ C}$ Kut Chong.	4·86	3·08	1·60	0.12	8·75	29·30	Tea leaves medium size and broken.

J. J. COSTIGAN, INSPECTOR.

Imported direct by vendor; blended.	4·74	3·02	1·66	0·06	9·20	36·50	Tea leaves and stems; the former broken.
" " ..	4·52	2·96	1·43	0·08	9·60	32 10	Tea leaves broken and many stems.
" " ..	4 52	2·84	1.54	0·14	8·15	33·65	Tea leaves large and broken.
Blended.....	5·46	3 74	1·44	3·28	7 45	35·25	Tea leaves broken.
.....	5·89	2·32	2·96	0·52	7·40	36·30	"

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DESCRIPTION OF AND RESULTS OF

DISTRICT OF MONTREAL—

Date of Collection.	Nature of Sample.	Number of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Price.	Name and Address of Manufacturer or Furnisher.
1906.					Cts.	
Aug. 24..	Japan Tea	31506	N. Beaudom, 687 Mount Royal Ave.	1 lb.	20	Kearney Brothers, Montreal.
" 24..	Black Tea	31507	J. V. Boudrias, 223 Notre Dame St. East, Montreal.	1 "	25	John Duncan & Co., Montreal.
" 24..	Green Tea	31508	" " ..	1 "	20	Not known.
" 28..	Japan Tea	31509	H. F. Barre, 4818 St. Catherine, Maisonneuve.	1 "	25	" "
" 31..	"	31510	English Provision Co., 681 St. Catherine West, Montraal.	1 "	40	" "

DISTRICT OF OTTAWA—

Sept. 10..	Green Tea	29361	Alex. Larose. 128 Queen St. West, Ottawa.	1 lb.	30	Bate & Sons, Ottawa.
" 10..	Black Tea	29362	" " ..	1 "	30	" "
" 10 .	Green Tea, Ceylon	29365	A. Boivin, 86 Queen St. West, Ottawa.	1 "	40	Anglo-Saxon Tea Co., Ceylon and India.
" 10..	Black Salada Tea	29366	" " ..	1 "	50	" "
" 10..	Black Tea, No. 2	29367	Capitol Blend Tea Co., 326 Queen St., Ottawa.	1 "	25	Vendors
" 10.	" No. 02	29368	" " ..	1 "	30	"
" 10..	Japan Tea No. 2, Green.	29369	" " ..	1 "	25	"
" 10..	Japan Tea No. 02, Green.	29370	" " ..	1 "	30	"

DISTRICT OF KINGSTON—

Aug. 21..	Black Tea	29481	C. S. Litton, Alfred St., Kingston.	1 lb.	30	Estabrook
" 21..	Japan Tea	29482	" " ..	1 "	30	W. G. Craig Co., Kingston.
" 21..	Black Tea	29485	W. J. Nesbett, Johnston St., Kingston.	1 "	40	Robertson & Son, Kingston.
" 21	Japan Tea	29486	" "	1 "	30	Redden, Kingston.
" 21..	Black Tea	29488	F. Ostler, Johnston St., Kingston.	1 "	30	W. G. Craig, Kingston.
" 21..	Salada Tea	29489	" " ..	1 "	30	" "
" 21..	Japan Tea	29493	F. A. Allan, Alfred St., Kingston.	1 "	30	Will. Gilbreth, Montreal.
" 21..	Black Tea	29494	" " ..	1 "	30	Robertson Nicolle, Kingston.

SESSIONAL PAPER No. 14

EXAMINING 89 SAMPLES OF TEA—*Continued.*

J. J. COSTIGAN, INSPECTOR—*Concluded.*

Inspector's Report.	Results of Analysis.						Botanical Examination.
	Ash.				Moisture.	Hot Water Extract.	
	Total.	Water Soluble.	Acid Soluble.	Acid Insoluble.			
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	
.....	4·48	3·24	1·20	0·04	7·70	37·30	Tea leaves broken with a few stems.
.....	5·26	3·16	1·68	0·42	7·95	33·40	Tea leaves broken with many stems.
.....	5·88	2·52	2·60	0·76	7·25	30·05	Tea leaves large and broken with a few stems.
.....	5.26	3·14	1·76	0·36	7·30	31·90	Tea leaves small and broken.
Uncoloured..	5·20	3.28	1·78	0·14	7·00	35·00	Tea leaves small.

A. E SANDERSON, INSPECTOR.

Labelled 'Tricotta Ceylon; Young-Hyson; bulked.'	5·60	3·00	2.20	0·40	7·70	38·25	Tea leaves broken and many stems.
Labelled 'Blend'. ..	4·54	3·18	1·36	0·00	8·50	34·15	Tea leaves small and broken.
Labelled 'uncoloured Ceylon green.'	5·04	3·14	1·90	0·60	7·00	36·70	Tea leaves broken and many stems.
Labelled 'Salada Ceylon Tea.'	4·68	2·14	2·46	0·08	7·70	31·80	Tea leaves small and broken.
Labelled 'Capitol Blend Tea Co.; purity, flavour and excellence guaranteed.'	5·12	3·26	1·86	0·00	7·45	34·15	Tea leaves and stems; the former large and broken.
" " ..	4·68	3·02	1·64	0·02	7·15	35·45	Tea leaves broken.
Labelled 'Capitol blend.'	5·20	3·00	2·00	0·20	7·75	36·90	Tea leaves medium size and broken.
" " ..	5·46	3·28	2·18	0·00	7.75	30·40	Tea leaves and stems; the former broken.

J. HOGAN, INSPECTOR.

.....	4·96	3·28	1·68	0·00	8·45	32 80	Tea leaves broken and stems.
.....	5·30	3·46	1·84	0·00	7·50	39·40	" "
.....	4·80	3·24	1·56	0·00	8·40	33·05	Tea leaves broken and many stems.
.....	5 60	3·06	2·12	0·42	7·25	36·55	Tea leaves broken.
.....	5·06	3·68	1·32	0·06	7·80	34·40	Tea leaves large; broken.
.....	4·98	2·62	2·16	0·20	7·45	33·75	Tea leaves broken.
.....	5·60	3·62	1·82	0 16	7·45	35·75	Tea leaves large; broken.
.....	4·04	2·88	1·16	0·00	8·65	31·85	Tea leaves broken; many stems.

DESCRIPTION OF AND RESULTS OF

DISTRICT OF TORONTO—

Date of Collection.	Nature of Sample.	Number of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Price.	Name and Address of Manufacturer or Furnisher.
1906.					cts.	
Sept. 4..	Ceylon Black Tea.....	30170	M. E. Goddard, 448 King St., Toronto.	½ lb.	13	R B. Hayhoe & Co. wholesale, Toronto.
" 4..	Black Tea	30172	T. Creay, 318 Queen St., Toronto.	½ "	20	White & Co., wholesale, Toronto.
" 5..	Tea, Young-Hyson. ..	30177	A. F. Barker, 302 Yonge St., Toronto.	½ "	15	Not known.....
" 5..	India-Ceylon Tea.....	30180	T. Eaton & Co., Yonge St., Toronto.	1 "	23	Vendors blend the tea themselves.
" 5..	Ceylon Tea, Black....	30182	R. Simpson, Yonge St., Toronto.	1 "	25	" " ..
" 6..	Lipton's Black and Green Tea, Ceylon.	30183	Kelley Bros., 90 Queen St., Toronto.	½ "	20	R. Lipton, agent for Thos. Lipton.
" 6..	Blue Ribbon Tea.....	30185	J. W. Nettleton, cor. Church & Queen Sts., Toronto.	1 "	25	Blue Ribbon Tea Co., Toronto.
" 6..	India Tea	30187	H. McDougall, Toronto.....	1 "	25	Vendor..... .
" 6..	Salada Tea	30190	Mrs. R. Davis, 120 York St., Toronto.	½ "	20	Salada Tea Co., Toronto.
" 6..	Red Rose Tea	30191	Mrs. Crapper, Georges St., Toronto.	½ "	20	T. H. Estabrook, St. John, N.B ..

DISTRICT OF LONDON—

Aug. 23..	Gunpowder Tea. . .	30150	Orman & Mallion, Stratford.	½ lb.	18	Not known.....
" 23..	Black Tea...	30151	Will J. N. Nolfolk, Stratford	½ "	13	McPherson, Glasco & Co., wholesale, Hamilton.
" 24..	Young-Hyson Tea ...	30156	W. J. Cherney, Windsor, Ont.	½ "	25	Not known.....
" 24..	India-Ceylon Tea.....	30157	Fielding & Campead, Windsor, Ont.	1 "	50	T. H. Estabrook, St. John, N.B.
" 24..	Ceylon Tea	30158	Taylor & Williamson, Chatham, Ont.	½ "	30	S. T. Durand & Co., wholesale, Montreal.
" 24 .	Salada Black Tea	30159	William Anderson, Chatham, Ont.	1 "	25	P. C. Larkin & Co., Toronto.
" 25..	India-Ceylon Tea, Black Tea.	30161	George S. Hayward, Chatham, Ont.	½ "	25	Vendor.....
" 28..	China Black Tea.... .	30168	Williams & Purcell, Seaforth, Ont.	½ "	25	McPherson, Glasco & Co., wholesale, Hamilton.

DISTRICT OF MANITOBA—

Sept. 12 .	Tea. Black.....	25791	K. McKenzie & Co., Winnipeg.	1 lb.	35	Mazawattee Tea Co., London, Eng
" 12..	"	25792	Campbell Bros. & Wilson, Winnipeg.	1 "	35	Packed by vendors

SESSIONAL PAPER No. 14

EXAMINING 89 SAMPLES OF TEA—*Continued.*

T. KIDD, ACTING INSPECTOR.

Inspector's Report.	Results of Analysis.						Botanical Examination.
	Ash.				Moisture.	Hot Water Extract.	
	Total.	Water Soluble.	Acid Soluble.	Acid Insoluble.			
	p. c.	p. c.	p. c.	p. c	p. c.	p. c.	
....	4·58	2·76	1·76	0·06	7·65	33·80	Tea leaves large ; broken.
... .	4·24	2·80	1·42	0·02	7·80	31·80	" small ; broken.
Green, Young-Hyson..	4·92	3·28	1·58	0·06	6·95	35·85	" very small ; broken.
.....	5·00	2·98	1·90	0·12	6·75	32·65	" large ; broken ; a few stems.
Heather brand.....	4·32	2·14	2·18	0·00	7·60	32·85	" large ; broken ; many stems.
Ceylon, green and black	4·96	2·64	2·24	0·88	7·60	32·70	" broken ; stems.
India-Ceylon tea ; blended black tea.	4·86	2·90	1·78	0·18	7·50	35·30	" large ; broken.
Vendor imports and blends himself ; called 'Himalagan' tea.	5·24	3·24	2·00	0 00	7·15	34·30	" "
. ...	4·66	2·84	1·82	0·00	7·05	37·20	" "
Branded pure India-Ceylon tea ; black.	4·30	2·66	1·56	0·08	6·75	35·75	" "

T. KIDD, INSPECTOR.

Gunpowder tea	6·36	3·32	2·64	0·40	7·10	33·90	Tea leaves large.
Blended by vendor in Stratford.	5·86	3·90	1·92	0·04	8·05	30·40	" broken.
....	6·02	3·88	1·88	0·26	6·90	40·50	" small ; broken.
Called Red Rose tea...	4·40	2·96	1·44	0·00	7·45	36·00	" broken.
Called Mazawattee Ceylon tea.	4·04	2·64	1·32	0·08	8·25	34·50	" much broken ; a few stems.
Called Salada tea	4·80	3 04	1·76	0 00	7·60	35·50	" large ; broken.
Blended by vendor....	4·10	2·48	1·62	0·00	7·50	33·15	" broken ; many stems.
Called China black tea.	4·54	2·80	1·74	0·00	7·65	37·70	" broken ; many stems.

W. M. CONKLIN, INSPECTOR.

....	4.76	2·96	1·72	0·08	7·75	35·55	Tea leaves broken ; stems.
....	4·72	3·30	1·38	0·04	7·75	38·95	" broken ; many stems.

DESCRIPTION OF AND RESULTS OF

DISTRICT OF MANITOBA—

Date of Collection.	Nature of Sample.	Number of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Price.	Name and Address of Manufacturer or Furnisher.
1906.					cts.	
Sept. 12..	Tea, Black.....	25793	Foley, Lock & Larson, Winnipeg.	1 lb.	25	Packed by vendors
" 12..	"	25794	Jobin, Marrin & Co., Winnipeg.	1 "	35	Nectar Tea Co., Ceylon.
" 12..	"	25795	The A. Macdonald Co., Winnipeg.	1 "	30	Packed for vendors
" 12..	"	25796	Codville & Co., Winnipeg...	1 "	....	Packed by vendors
" 12..	"	25797	Hicks Bros. & Co., Winnipeg.	1 "	30	Payne & Co., London, Eng.
" 12..	Tea, Ceylon	25798	G. F. & J. Galt, Winnipeg..	1 "	35	Blue Ribbon Mfg. Co.

DISTRICT OF CALGARY—

Sept. 12..	Tea, Indian..... ..	28692	L. T. Newburn, wholesale, Calgary.	1½ lb.	55	Ram Sals Pure India Tea.
" 12..	Tea, Ceylon.....	28693	G. F. & J. Galt, wholesale, Calgary.	1½ "	45	Put up by vendors.
" 12..	"	28694	Codville, Smith Co., wholesale, Calgary.	1½ "	55	Salada Tea Co., Ltd.
" 12..	"	28695	Campbell, Wilson & Horne, wholesale, Calgary.	1½ "	50	Campbell Bros. & Wilson, Winnipeg, Man.

DISTRICT OF BRITISH COLUMBIA—

Aug. 28...	Black Tea.....	28173	J. W. Charlesworth, retail, 902 Granville Street, Vancouver, B.C.	1 lb.	25	W. Braid & Co., Vancouver, B.C.
" 29...	"	28174	J. Murchir,, Orient Tea Co., Cordora St. West, Vancouver, B.C.	1 "	20	" "
" 29...	Green Tea.....	28177	Kelly, Douglas & Co., Ltd., wholesale, Vancouver, B.C.	1⅓	45	P. C Lagan, Toronto.
" 29...	Black Tea.....	28180	J. W. McMillan & Co., wholesale, Vancouver, B.C.	1 "	20	Vendors.
" 30...	Green Tea.	28185	Colombo Tea Co., retail, Hastings St., Vancouver, B.C.	1 "	30	Young Bros., Vancouver & Seattle.

SESSIONAL PAPER No. 14

EXAMINING 89 SAMPLES OF TEA—*Concluded.*

W. M. CONKLIN, INSPECTOR—*Concluded.*

Inspector's Report.	Results of Analysis.						Botanical Examination.
	Ash.				Moisture.	Hot Water Extract.	
	Total.	Water Soluble.	Acid Soluble.	Acid Insoluble.			
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	
.....	5·04	2·98	1·88	0·18	7·70	31·65	Tea leaves much broken.
.....	4·62	2·76	1·86	0·00	7·75	35·75	" broken.
.....	4·64	3·02	1·62	0·00	7·68	36·20	" much broken ; stems.
.....	5·80	4·12	1·68	0·00	7·55	36·55	" broken ; a few stems.
.....	4·50	3·04	1·46	0·00	7·70	33·25	" broken ; stems.
.....	4·72	3·00	1·50	0·22	7·10	33·35	" small ; broken ; a few stems.
W. FLETCHER, INSPECTOR.							
.....	5·70	3·78	1·70	0·22	7·10	36·00	Tea leaves much broken ; stems.
.....	5·06	3·32	1·58	0·16	6·50	34·65	Tea leaves broken ; stems.
.....	4·42	2·90	1·46	0·06	7·75	36·40	" large ; broken.
.....	4·28	2·72	1·50	0·06	7·65	35·60	" much broken ; stems.
E. B. PARKINSON, INSPECTOR.							
Star of India Green Label brand. This tea is put up in packages marked W. Tufts & Sons. Vendor having bought the business from them and using their old labels and wrappers. Imported.	5·28	3·18	2·02	0·08	8·20	34·65	Tea leaves broken ; stems.
Vendor did not know the name or brand ; no name or brand on package. Imported.	4·40	3·20	1·14	0·06	7·80	34.85	" large ; broken
'Salada brand.' Guaranteed pure uncoloured natural leaf Ceylon green and superior to that of finest Japan and has the advantage of being cleanly prepared. Imported.	4·16	2·44	1·72	0·00	6·90	42·30	" broken ; many stems.
Dandie No. 2 brand.	5·06	2·20	2·64	0·22	8·40	32·75	Tea leaves large : broken stems.
Japan tea. Imported.	5·46	3·90	1·26	0·30	7·85	35·75	Tea leaves broken.

APPENDIX G.

BULLETIN No. 131—BUTTER, 1906.

Ottawa, January 31, 1907.

W. J. Gerald, Esq.,

Deputy Minister of Inland Revenue.

Sir,—In October of last year certain samples of butter were transmitted to you by Mr. J. A. Ruddick, Dairy Commissioner, as having been obtained in the city of Quebec and suspected to be spurious. On examination they proved to be largely adulterated with foreign fat and thereupon the collection of a larger number of samples was authorized by you. These were obtained in the month of November and are described, with the results of their examination, in the tabulated statement attached to this report. The following is a summary of the results obtained :—

Inspection District.	Genuine.	Doubtful.	Adulterated.	Total.
Nova Scotia	6	0	0	6
Prince Edward Island	2	0	1	3
New Brunswick	6	0	0	6
Quebec	15	0	1	16
St. Hyacinthe	7	0	1	8
Montreal	6	2	4	12
Ottawa	7	1	0	8
Kingston	8	0	0	8
Toronto	10	0	0	10
London	8	0	0	8
Manitoba	7	1	0	8
British Columbia	8	0	0	8
	90	4	7	101

In the foregoing I have classed a sample containing over 16 per cent water and one with less than 80 per cent butter fat as doubtful although pronounced genuine by the district analyst. The adulterated samples comprise five which contain excessive quantities of water and two which consist very largely of foreign fat. From the latter fact it would appear that oleomargarine in small quantities is either being imported into Canada or is being manufactured here. In order that the public and the trade may be warned of this I beg to recommend the publication of this report.

I have the honour to be, sir,

Your obedient servant,

THOMAS MACFARLANE,

Chief Analyst.

7-8 EDWARD VII., A. 1908

DESCRIPTION of 101 Samples of Butter

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Value.	Name and Address of Manufacturer or Furnisher.
1906.			*District of Nova Scotia—R. J. Waugh, Inspector.*		Cts.	
Nov. 6	Butter	27208	Hutchinson & Power, Halifax, N.S.	1½ lbs.	33	Not known
" 6	"	27209	Smith & Proctor, Halifax, N.S.	1¼ "	28	"
" 6	"	27210	P. T. Shea, Halifax, N.S.	1¼ "	35	R. Starratt, Bass River, N.S.
" 6	"	27211	O'Neil & Mulcahey, 22 Barrington St., Halifax, N.S.	1¼ "	37	Acadia Dairy Co., Wolfville, N.S.
" 8	"	27216	Shand Bros., Windsor, N.S.	1¼ "	31	John Baker, Windsor, N.S.
" 8	"	27217	Murphy & DeMont, Windsor, N.S.	1¼ "	32	Not known
			District of Prince Edward Island—T. Moore, Inspector.			
Nov. 5	Butter	28328	R. T. Holman, Summerside.	1½ lbs.	35	Kenford Wait, Wilmot, P.E.I.
" 6	"	28332	A. Gates & Co., Charlottetown.	1½ "	42	Dunstaffnage Dairy Co., Dunstaffnage, P.E.I.
" 6	"	28333	Stewart & Son, Charlottetown.	1½ "	35	M. McEachern, Lot 48, P.E.I.
			District of New Brunswick—J. C. Ferguson, Inspector.			
Nov. 5	Butter, Creamery	24278	W. H. Bell, 92 King St., St. John, N.B.	1½ lbs.	48	Vendor
" 6	" Dairy	24279	P. Nase & Son, Ltd., 2-14 Main St., St. John, N.B., north end.	1½ "	45	W. T. Coburn, Harvey Station, York Co., N.B.
" 6	" Creamery	24280	Maritime Dairy Co., Ltd., 159 Main St., St. John N.B., north end.	1½ "	40	Sussex Creamery, Sussex Kings Co., N.B.
" 6	" "	24281	Sussex Milk and Cream Co., Ltd., 158 Pond St., St. John, N.B.	1½	42	Vendors
" 7	" Dairy	24282	Megarity & Kelly, Marsh Bridge, St. John, N.B.	1½ "	42	Slocum & Ferris, City Market, St. John, N.B.

Examined by the District Analysts.

Inspector's Report.	Results of Analysis by District Analyst.						Readings of Butyro: Refractometer at 25° C. by A. McGill.		District Analysts.	
	Moisture.	Fat.	Salt.	Curd.	Reichert Meissl No.	Specific gravity of fat at 100° compared with water at 100° C.	Reading.	Opinion.	Remarks.	Name.
	p.c.	p.c.	p.c.	p.c.		p.c.	°			
Said to be manufactured in Manitoba. Wholesaler.	13·20	81·28	2·99	2·52	27·19	.....	52·2	Genuine..	Genuine..	M. Bowman.
Said to be Ontario butter. Sold as cooking butter; wholesale.	7·75	85·56	2·93	1·74	26·58	.....	52·2	" ..	" ..	"
Sold as creamery butter; put up in 2 lb. blocks; wholesale and retail.	12·64	80·03	5·29	2·03	27·26	.....	51·0	" ..	" ..	"
Sample sold as creamery butter; retail dealer.	13·43	81·76	2·61	2·19	26·52	.....	51·0	" ..	" ..	"
Sold as dairy butter.	11·85	82·51	4·42	1·21	25·16	.....	51·1	" ..	" ..	"
Purchased by vendors from H. D. Woodworth, Kingston, N.S..	11·65	81·55	5·81	0·99	27·59	.....	50·9	" ..	" ..	"
Dairy butter in prints and sold to vendor as pure butter.	11·87	84·47	2·18	1·47	27·34	.....	51·0	Genuine..	Genuine..	M. Bowman.
This sample of butter is made and put up by the Dunstaffnage Creamery Co.	11·78	83·39	4·19	0·63	26·57	.....	51·2	" ..	" ..	"
Dairy tub butter; bought from McEachern and retailed by Stewart & Son.	13·54	78·46	5·97	2·02	30·50	.....	51·5	" ..	Adulter'd; containg less than 80 per ct of butter fat.	"
From 2 lb. bar. Half lb. creases.	11·65	82·89	3·79	1·66	25·40	.....	51·1	Genuine..	Genuine..	M. Bowman
From 1 lb. bars....	12·24	81·92	3·87	1·95	27·84	.....	52·2	" ..	" ..	"
From 2 lb. bar ...	11·24	82·95	3·83	1·97	24·40	.....	52·2	" ..	" ..	"
From 2 lb bar....	8·27	86·72	2·93	2·07	25·52	.....	53·0	" ..	" ..	"
Dairy butter; from 32 lb. tub on retail in store; said to be New Brunswick product.	8·21	81·08	8·92	1·78	26·47	.....	52·0	" ..	" ..	

DESCRIPTION of 101 Samples of Butter

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Value.	Name and Address of Manufacturer or Furnisher.
1906.			*District of New Brunswick*—Con.		Cts.	
Nov. 7	Butter, Dairy	24283	J. D. McAvity, 39 Brussels St., St. John, N.B.	1½ lbs.	42	Orland S. Dykeman, 1-5 Camden St., St. John, N.B.. north end.
			District of Quebec—E. Béland, Inspector.			
Nov. 19	Butter	26064	J. B. Renaud et Cie, 126 St. Paul.	1 lb.	25	Dairy St. Raymond, Portneuf.
" 19	"	26065	" "	1 "	23	Alphonse Nicol, St. Simon..
" 19	"	26066	" "	1 "	23	Louis Belanger, St. Jean, Port Joli.
" 20	"	26067	" "	1 "	19	Emond & Côte, Quebec.....
" 7	"	26028	Chas. Maranda, Finlay Market, Que.	1 "	20	Unknown.....
" 7	"	26029	Edmond Sylvain, Finlay Market, Que.	1 "	22	"
" 7	"	26030	David Lacombe, Hall St. Pierre, Que.	1 "	24	Emond & Côte, Quebec.....
" 7	"	26031	Arthur Lemieux, Hall St. Pierre, Que.	1 "	22	Unknown.....
" 7	"	26032	Edouard Gigeare, Hall St. Pierre, Que.	1 "	24	Emond & Côte, Quebec.. ...
" 8	"	26033	R. Ruthman & Son, Moncalm Market, Que.	1 "	25	" " .....
" 8	"	26034	Thos. Martin, Montcalm Market, Que.	1 "	25	J. B. Renaud & Cie.....
" 8	"	26035	François Boutet, Moncalm Market, Que.	1 "	26	St. Amselme Beurrerie, Que.
" 8	"	26036	Boutet & Lavoie, Berthelot Market, Que.	1 "	24	Emond & Côte, Quebec.. ...
" 8	"	26037	F. X. Blouin, Berthelot Market, Que.	1 "	24	Rioux & Cie., Quebec.....
" 8	"	26038	" "	1 "	25	J. B. Renaud & Cie.....
" 9	"	26039	Jean Drolet, Hall Champlain.	1 "	25	Kelly, St. Agathe.....
			District of St. Hyacinthe—J. C. Rouleau, Inspector.			
Nov. 7	Butter, Pastry	567	Gervais & Dionne, St. Jean, Que.	1½ lbs.	38	J. Langlois & Cie., Montreal
" 8	" "	568	G. A. Fruax, Farnham, Que.	2 "	40	J. Lefebvre, Bury, Que.....
" 9	" Cooking	569	Couture & Moore, Sherbrooke. Que	30 oz.	45	Jos. Demers, Shefford.....
" 13	" "	570	A. Magnan, Sorel, Que..	1½ lbs.	33	W. Champagne, 191-195 Rue St. Paul, Montreal.

SESSIONAL PAPER No. 14

Examined by the District Analysts—*Continued.*

Inspector's Report.	Results of Analysis by District Analyst.						Readings of Butyro : Refractometer at 25° C. by A. McGill.		District Analysts.	
	Moisture.	Fat.	Salt.	Curd.	Reichert Meissl No.	Specific gravity of fat at 100° compared with water at 100° C.	Reading.	Opinion.	Remarks.	Name.
	p.c.	p.c.	p.c.	p.c.		p.c.	°			
From 30 lb. box on retail in store; furnisher to Mr. McAvity, Orland S. Dykeman; said to be Carleton Co., N.B., butter.	10·27	82·03	5·88	1·81	25·26	....	52·9	Genuine..	Genuine..	M. Bowman.
Taken from 50 lbs.	12·60	82·61	2·81	1·79	28·8	0·8994	51·9	Genuine .	Genuine..	Dr. J. T. Donald.
" 50 "	9·89	83·39	4·19	0·75	33·0	0·8956	52·2	" ..	" ..	"
" 50 "	14·59	76·48	5·58	1·72	31·6	0·9024	50·4	" ..	" ..	"
" 35 "	11·04	83·42	2·05	1·32	3·0	0·8948	57·5	Adulterated.	Adulter'd; containg little if any butter fat.	"
" 45 "	10·72	80·65	5·71	1·56	29·1	0·9026	52·5	Genuine..	Genuine..	"
" 22 "	7·53	86·78	2·59	1·72	33·3	0·9039	52·6	" ..	" ..	"
" 45 "	6·76	88·30	1·62	2·46	2·90	0·9063	52·5	" ..	" ..	"
" 40 "	13·79	80·33	2·32	2·25	35·2	0·9049	51·6	" ..	" ..	"
" 45 "	12·27	83·92	1·09	1·34	31·5	0·9025	51·0	Gen.; s'ple very mouldy.	" ..	"
" 40 "	12·79	81·99	2·22	1·57	32·0	0·9041	51·6	Genuine.	" ..	"
" 45 "	10·01	84·80	3·08	1·02	29·3	0·9041	50·8	" ..	" ..	"
" 40 "	11·24	84·10	2·28	1·59	27·8	0·9032	52·0	" ..	" ..	"
" 40 "	13·81	77·09	5·56	1·00	32·0	0·9050	50·9	" ..	" ..	"
" 45 "	14·44	79·13	1·70	2·86	24·0	0·9023	51·3	"	" ..	"
" 50 "	7·32	85·11	5·31	0·96	29·4	0·9043	51·2	" ..	" ..	"
" 50 "	11·39	76·80	8·64	1·32	27·0	0·9165	53·0	" ..	" ..	"
Box marked 2093 with blue pencil.	10·97	81·69	3·21	2·51	31·6	0·9020	50·2	Genuine .	Genuine..	Dr. J. T. Donald.
No special mark on the box.	13·01	80·80	2·96	2·23	32·6	0·9063	52·5	" ..	" .	"
Taken out of a 25 lb. box.	9·59	83·89	3·61	1·70	27·2	0·9004	51·3	" ..	" ..	"
Taken out of a tub of about 70 lbs.	9 92	82·96	4·29	2·19	2·1	0·9003	57·8	Adulterated.	Adulterated, containing little if any butter fat.	"

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DESCRIPTION of 101 Samples of Butter

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Value.	Name and Address of Manufacturer or Furnisher.
1906.			*District of St. Hyacinthe —Con.*		Cts.	
Nov. 17	Butter, Cooking....	572	Thos. Hébert, St. Hyacinthe.	1½ lbs.	33	A. Jeannotte, St. Hyacinthe.
" 17	" Table	573	E. Benoit, St. Hyacinthe	1 "	25	Beauregard & Cie., Lapresentation
" 17	" "	574	U. Jeanotte "	1 "	26	N. Lajeunesse, St. François.
" 17	"	592	Ed. Viens, St. André, St. Thomas d'Aquint.	2 "	25	Vendor ....
			District of Montreal— J. J. Costigan, Inspector.			
Nov. 12	" Creamery ...	31601	C. Spector & Co., 18 Ontario E., Montreal.	1½ lbs.	41	Gunn, Langlois & Co.....
" 13	"	31602	A. E. Savageau, 667 St. Catherine E., Montreal	1½ "	34	Manitoba Dairy.... .....
" 13	" Creamery....	31603	" " ..	1½ "	39	Fortier & Monnette.....
" 13	" " ...	31604	A. Rivet, 456 St. Catherine E., Montreal.	1 10/16 "	42	Z. Limoges, Montreal. ...
" 16	" "	31605	J. A. Marceau, Bonsecour Market, Montreal.	2 "	50	M. Desjardins, Montreal....
" 16	" Dairy.....	31606	B. Lavoie, Bonsecour Market, Montreal.	1½ "	35	Weston, Ont..... ..
" 16	" Creamery....	31607	D. Desautels, St. James Market, Montreal.	1½ "	41	Z. Limoges, Montreal. ... .
" 16	" Cooking....	31608	" " ..	1½ "	30	Not known. ....
" 26	"	31609	M. Lavut, 113 St. Maurice, Montreal.	1½ "	42	Standard Dairy Co., Montreal
" 26	"	31610	Davies, Limited, retail branch, Chaboillez Sq., Montreal.	1½ "	30	Not known.....
" 26	"	31611	M. Desjardins et fils, 206 De Montigny East, Montreal.	2 "	46	M. Desjardins, St. Martin St.
" 26	"	31612	" " ..	1½ "	38	Not known.....
			District of Ottawa—A. E. Sanderson, Inspector.			
Nov. 13	Butter	29381	G. Stewart, 237 Bank St., Ottawa.	1½ lbs.	45	Rising Sun Creamery. ....
" 13	"	29385	P. D. Herbert, 228 Bank St., Ottawa.	1½ "	50	McCullough, Quebec .....
" 14	"	29389	Geo. Thomas, 63 George St., Ottawa.	1½ "	42	Mrs. Cassidy, Farleton. ....
" 14	.....	29390	" " ..	1½ "	37	" .... .
" 15	"	29395	A. Boivin, 80 Queen St. W., Ottawa.	1½ "	40	Ottawa Cold Storage.....

SESSIONAL PAPER No. 14

Examined by the District Analysts—*Continued.*

Inspector's Report.	Results of Analysis by District Analyst.						Readings of Butyro: Refractometer at 25° C. by A. McGill.		District Analysts.	
	Moisture.	Fat.	Salt.	Curd.	Reichert Meissl No.	Specific gravity of fat at 100° compared with water at 100° C.	Reading.	Opinion.	Remarks.	Name.
	p.c.	p.c.	p.c.	p.c.		p.c.	°			
Taken out of a tub of about 30 lbs.	9·90	83·83	2·66	2·09	32·1	0·9016	50·0	Genuine .	Genuine..	Dr. J. T. Donald.
... .	14·83	76·15	6·66	0·99	28·2	0 9027	51·2	" ..	" ..	"
From about a 20 lb. piece.	13·65	82·61	0·94	1·56	23·8	0·9057	51·2	" ..	" ..	"
Sold in ½ lb. cakes.	12·00	80·27	4·19	1·94	32·8	0·8994	51·5	" ..	" ..	"
Retail price, 27 cts. per lb.	15·15	78·84	3·57	1·41	28·6	0·8998	52·0	Genuine..	Genuine..	Dr. J. T. Donald.
Retail price, 24 cts. per lb.	11·27	82·25	1·92	2·73	32·2	0 8935	51·5	" ..	" ..	"
Retail price, 26 cts. per lb.	14·20	79·50	3·04	2·06	31·4	0·9007	51·0	" ..	" ..	"
Retail price, 24 cts. per lb.	10·39	84·38	1·69	1·90	27·5	0·9009	52·4	" ..	" ..	"
Sold as fresh creamery; put up in 1 lb. rolls; retailed at 25 cts. per roll.	29·75	68·02	0·17	1·21	24·3	0 8987	51·4	" ..	Adulterated with water.	"
Sold as dairy butter; retail price, 24 cts. per lb.	11·64	77·99	6·51	2·26	27·3	0·9010	52·0	" ..	Genuine..	"
Sold as creamery at 27 cts. per lb.	16·44	79·39	0·96	2·09	33·8	0 8915	52·4	" ..	Genuine but rather high in water.	"
Sold as cooking butter at 20 cts. per pound.	9·12	84·50	3·64	1·51	28·0	0·8991	50·9	" .	Genuine..	"
Retailed at 23 cts. per lb. in 2 lb. blocks.	30·15	67 53	0·32	1·39	28·8	0·8994	51·9	" ..	Adulterated with water.	"
Sold as dairy	11·81	72·80	12·11	1·70	31·8	0·9034	50·5	" ..	Genuine but too much salt.	"
Retail price, 23 cts. per lb. in 2 lb. rolls; dairy.	23·47	71·55	2·94	1·19	29·6	0·9073	50·6	" ..	Adulterated with water.	"
Retail price, 25 cts. per lb. Sold as creamery; put up in 1 lb. blocks.	22·94	72·65	2·74	1·06	27·9	0·9079	52 0	" ..	" " .	"
Creamery butter .	13·81	83·26	1·70	1·23	24·5	....	51·8	Genuine..	Genuine..	Dr. F. X. Vaade.
... .	13·27	82·36	2·88	1·49	23·9	....	52·0	" ..	" ..	"
Farmer's butter...	11·97	82·39	3·93	1·71	25·0	....	53·8	Probably genuine.	" ..	"
" ..	14·57	78·78	4·55	2·10	25·7	.. ..	52·2	Genuine.	Deficient in fat.	"
.....	9·63	81·45	7·23	1·69	31·8	.. ..	51·3	" ..	" ..	"

7-8 EDWARD VII., A. 1908

DESCRIPTION of 101 Samples of Butter

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Value.	Name and Address of Manufacturer or Furnisher.
1906.			*District of Ottawa*—Con.		Cts.	
Nov. 15	Butter	29396	A. Boivin, 80 Queen St., W., Ottawa.	1 lb.	28	McCullough, Quebec
" 15	"	29399	J. Currell, 86 Queen St. W., Ottawa.	1 "	27	Mrs. Baird, Fitzroy
" 19	"	32304	R. E. Powell, 285 Wellington St., Ottawa.	1½ "	45	Not known
			District of Kingston—J. Hogan, Inspector.			
Nov. 5	Butter	31001	Davies Co., Princess St., Kingston.	1 lb.	26	Davies Co., Dairy, Toronto.
" 5	"	31002	" "	1 "	35	Maple Leaf Standard Dairy.
" 5	"	31003	J. Thomas Polley, Brock St., Kingston.	1 "	30	Kingston Milk Depot
" 5	"	31004	J. Cullen, Princess St., Kingston.	1 "	30	Maple Leaf Standard Dairy.
" 5	"	31006	Charles Sanders, Princess St., Kingston.	1 "	30	" "
" 5	"	31008	G. H. Williams, Princess St., Kingston.	1 "	30	J. H. Peel, Victoria Road
" 5	"	31009	Anderson Bros., Princess St., Kingston.	1 "	30	Maple Leaf Standard Dairy.
" 6	"	31011	Joseph Lemmon, Montreal St., Kingston.	1 "	30	Not known
			District of Toronto—T. Kidd, Acting Inspector			
Nov. 14	Butter	30222	J. A. McCrea & Son, Guelph.	1 lb.	25	Vendors
" 15	"	30223	R. Higgins & Son, 802 Yonge St., Toronto.	1½ "	48	White & Co., Front St., Toronto.
" 15	"	30224	W. M. Davies & Co., Yonge St., Toronto.	1½ "	48	Jacob Steadalband, Elmira, Ont.
" 16	"	30227	Park, Thompson & Co., Toronto.	1½ "	38	Vendors
" 16	"	30228	A. Provan, King Street, Toronto.	1½ "	45	Mrs. C. McKenna, Lloydtown County York.
" 19	"	30231	Kidd & Co., Athlone, Ont.	1½ "	35	Mrs. Harry Trump, Adjala Township, Co. Simcoe.
" 19	"	30235	George E. Reynolds, Beeton, Ont.	1½ "	40	Mrs. William Strongman, Tecumseth Township.
" 20	"	30237	J. M. Courtney, Tottenham, Ont.	1½ "	40	Miss Delemere, Colgan, Ont.
" 21	"	30239	Swan Bros., 162 King St., Toronto.	1½ "	42	James Young, Earin Township, Co. Wellington.
" 21	"	30240	Gunn Co., Ltd., 48 Front St., Toronto.	1¼ "	30	Not known

SESSIONAL PAPER No. 14

Examined by the District Analysts—*Continued.*

Inspector's Report.	Results of Analysis by District Analyst.						Readings of Butyro: Refractometer at 25° C. by A. McGill.		District Analysts.	
	Moisture.	Fat.	Salt.	Curd.	Reichert Meissl No.	Specific gravity of fat at 100° compared with water at 100° C.	Reading.	Opinion.	Remarks.	Name.
	p.c.	p.c.	p.c.	p.c.		p.c.				
....	11·07	85·63	1·90	1·40	26·3	....	53·0	Genuine..	Genuine..	Dr. F. X. Valade.
Taken from pail; farmer's butter.	13·21	83·38	2·20	1·21	23·0	.....	51·4	" ..	" ..	"
....	14·94	81·09	2 67	1·30	25·3	....	51·4	" .	" ..	"
....	8·11	85·92	4·14	1·83	31·8	....	51·2	Genuine..	Genuine..	Dr. F. X. Valade.
.. ..	14·48	81·74	1·68	2·10	25·3	....	51·5	" .	" ..	"
....	11·72	84·65	2·05	1·58	24·9	... ...	52·1	" ..	" ..	"
....	11·82	85·91	1·06	1·21	25 3	.....	52·1	" ..	" ..	"
....	12·32	84·42	1·71	1·55	27·5	....	52·0	" ..	" ..	"
....	11·09	85 45	2·32	1·14	26·8	..... .	52·4	" .	" ..	"
....	13 71	83·49	1·55	1·25	24·5	.....	52·2	" ..	" ..	"
Royal brand	12·31	85·51	1·32	0 86	24·7	.....	52·0	" ..	" ..	"
Vendor purchased from a farmer.	10·58	86 34	1·93	1·07	27·10	0·8992	51·2	Genuine..	Genuine..	Dr. W. H. Ellis
....	9·18	86·41	2·96	1·19	31·77	0·9027	51·8	" ..	" ..	"
....	12·66	83·88	2 37	0·89	29·04	0 9032	52·3	" ..	" ..	"
.....	3·10	93 83	1·03	1·73	30·71	0·8977	52·2	" ..	" ..	"
Branded dairy. ...	5·52	88·03	5·49	0·86	24·78	0·8989	52·2	" ..	" ..	"
....	10·88	81·22	6·25	1·04	24·57	0·9017	53·0	" ..	" ..	"
.....	8·04	85·60	4 02	1·71	30·80	0·9011	51·1	" ..	" ..	"
....	10·06	85·90	2·56	1·05	24·40	0·8986	53·2	" ..	" ..	"
.....	10·73	82·96	4·55	1·38	28·22	0·9008	51·5	" ..	" ..	"
Vendor handles large quantities of butter in a wholesale way; shipped from Baden.	3·63	94 64	1·04	1·07	34·03	0·9022	53·0	" ..	" ..	"

7-8 EDWARD VII., A. 1908

DESCRIPTION of 101 Samples of Butter

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Value.	Name and Address of Manufacturer or Furnisher.
1906.			*District of London— T. Kidd, Inspector.*		Cts.	
Nov. 2	Butter	30195	William Cherney, Windsor, Ont.	1 lb.	28	J. S. Tester, Bothwell, Ont.
" 3	"	30201	John McCorbey, Chatham, Ont.	1 "	23	Mrs. Cotman, Chatham Township.
" 7	"	30211	Williams & Purcill, Seaforth, Ont.	1½ "	35	Not known
" 8	"	30216	John Beattie, Seaforth, Ont.	1 "	23	Mrs. Bell, McKillop Township, Co. Huron.
" 9	"	30217	S. M. Edwards, butter merchant, Mitchell, Ont.	1½ "	30	Mrs. Seyburn, Fullerton Township, Perth Co.
" 10	"	30218	William Pickard, Seaforth, Ont.	1½ "	30	Not known
" 8	"	30212	O. C. Whitely, Goderich, Ont.	1 "	24	M. Ford, general merchant, Mitchell, Ont.
" 8	"	30214	Henry J. Moorish, Goderich, Ont.	1 "	25	M. Watson, Kincardine, Ont.
			District of Manitoba— W. M. Conklin, Inspector.			
Nov. 27	Butter	25925	W. J. Kennedy, Winnipeg.	1 lb.	30	Not known
" 27	"	25926	J. A. Parks, Winnipeg	1 "	35	The Dominion Produce Co., Winnipeg.
" 27	"	25927	The National Creamery Co., Winnipeg.	1 "	..	Vendors
" 28	"	25928	John Donnelly & Son, Winnipeg.	1 "	30	Not known
" 28	"	25929	H. Sylvester, Winnipeg.	1 "	35	"
" 28	"	25930	A. Jackson, Winnipeg.	1 "	30	Imperial Produce Co., Winnipeg.
" 28	"	25931	J. R. Cote, St. Boniface.	1 "	30	Not known
" 28	"	25932	T. Pelletier, St. Boniface.	1 "	30	"
			District of Calgary— W. Fletcher, Inspector.			
			No collections made in the District of Calgary.			

SESSIONAL PAPER No. 14

Examined by the District Analysts—*Continued.*

Inspector's Report.	Results of Analysis by District Analyst.						Readings of Butyro: Refractometer at 25° C. by A. McGill.		District Analysts.	
	Moisture.	Fat.	Salt.	Curd.	Reichert Meissl No.	Specific gravity of fat at 100° compared with water at 100° C.	Reading.	Opinion.	Remarks.	Name.
	p.c.	p.c.	p.c.	p.c.		p.c.	°			
.. ..	9·17	84·94	1·34	3·70	23·57	0·9049	53·9	Probably genuine.	Genuine..	Dr. W. H. Ellis
Farmer's butter...	6·26	89·98	1·88	1·40	24·31	0·9010	52·0	Genuine..	" ..	"
"	12·05	79·56	5·53	1·68	27·61	0·9011	51·6	" ..	" ..	"
....	6·29	86 55	5·68	1·21	28·42	0·9005	52·0	" ..	" ..	"
....	5·98	90·64	0 05	1·27	24·97	0·8980	52·2	" ..	" ..	"
Farmer's butter...	10·08	81·00	6·67	1·68	25·10	0·9060	52·0	" ..	" ..	"
.....	5·18	93·46	0·57	0·07	29·85	0·9004	52·0	" ..	" ..	"
....	7·87	88·46	2·98	0·50	29·97	0·9050	52·0	" ..	" ..	"
Farmer's	8·04	88·95	1·43	1·29	26·78	0·8976	52·1	Genuine..	Genuine..	Dr. W. H. Ellis
.. ..	7·78	89·26	1·59	1·72	26·69	0·8982	51·9	" ..	" ..	"
.. ..	9·04	85·83	3·56	1·61	27·50	0·9006	51·5	" ..	" ..	"
... .	5·99	91·30	1·25	1·23	23·93	0·8974	51·9	" ..	" ..	"
....	4·13	93·58	0·93	1·26	30·70	0·8999	51·5	" ..	" .	"
....	9·33	88·10	1·34	0·99	31·01	0·9011	52·0	" ..	" ..	"
Farmer's	6·66	89·67	2 19	1·13	25·43	0·8974	51·0	" ..	" ..	"
... .	5·27	91·56	1·61	1·23	20·12	0·8984	51·8	" ..	Too low in volatile fatty acids.	"

7-8 EDWARD VII., A. 1908

DESCRIPTION of 101 Samples of Butter

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher.
				Quantity.	Value.	
1906			*District of British Columbia—E. B. Parkinson, Inspector.*		Cts.	
Nov. 13	Butter	32001	The H. A. Edgett Co., Ltd., Hastings St., Vancouver, B.C,	1½ lbs.	55	The H. A. Edgett Co., Ltd. Abbotsford, B.C.
" 13	"	32002	J. J. Griffin & Co., wholesale, Water St., Vancouver, B.C.	1½ "	30	Not known.
" 13	"	32003	H. Albert, Carrall St., Vancouver, B.C.	1½ "	45	The Provincial Government Creamery, Alberta.
" 13	"	32004	F. Filion, Carrall St., Vancouver, B.C.	1½ "	45	The Chilliwack Creamery, Chilliwack, B.C.
" 13	"	32005	W. J. McMillan & Co., wholesale, Alexander St., Vancouver, B.C.	1½ "	30	The Victoria Creamery Association, Victoria, B.C.
" 13	"	32006	The City Grocery, Westminster Ave., Vancouver, B.C.	1½ "	30	J. Y. Griffin & Co., Vancouver, B.C.
" 13	"	32007	S. T. Wallace, Westminster Ave., Vancouver, B.C.	1½ "	30	F. R. Stewart, Vancouver, B.C.
" 13	"	32008	Ford, Saxton & Co., Drake St., Vancouver, B.C.	1½ "	40	Vendors.

SESSIONAL PAPER No. 14

Examined by the District Analysts—*Concluded.*

Inspector's Report	Results of Analysis by District Analyst.						Readings of Butyro: Refractometer at 25° C. by A. McGill.		District Analysts.	
	Moisture.	Fat.	Salt.	Curd.	Reichert Meissl No.	Specific gravity of fat at 100° compared with water at 100° C.	Reading.	Opinion	Remarks.	Name.
	p. c.	p. c.	p. c.	p. c.		p. c.	°			
'Edgewood brand.' This butter is manufactured by the firm at their own dairy at Abbotsford, B.C.	8·35	88·75	1·17	1·73	26·6	0·8677	52·0	Genuine.	Genuine.	Dr. C. J. Fagan.
This butter is purchased by vendors in Alberta and Manitoba and shipped to Vancouver by the car load and there repacked into 1 lb. blocks by vendors.	8·50	88·00	0·53	2·97	25·7	0·8684	51·0	"	"	"
This butter is bought in tubs and boxes and is repacked into 1 lb. blocks by vendor.	4·70	92·80	0·75	1·75	32·0	0·8709	51·0	"	"	"
Tub butter.	7·30	89·50	1·70	1·50	26·10	0·8698	52·2	"	"	"
Put up in 1 lb. blocks. The Victoria Creamery Association, Victoria, B. C., on wrapper.	11·10	85·80	1·60	1·50	22·00	0·8691	51·5	"	"	"
No brand; sold as cooking butter; tub.	8·60	85·50	1·58	1·32	29·9	0·8653	51·6	"	"	"
Tub butter; no brand; sold as cooking butter.	5·97	88·95	3·04	2·06	26·8	0·8653	52·0	"	"	"
Purchased at the dairy.	12·10	84·40	1·93	1·57	24·6	0·8653	52·1	"	"	"

APPENDIX H.

BULLETIN No. 132—BREAKFAST FOODS.

OTTAWA, March 25, 1907.

W. J. GERALD, Esq.,

Deputy Minister of Inland Revenue.

SIR—On the 22nd October last a collection of what are known as 'Breakfast Foods' was authorized by you and the samples were obtained in the open market by the food inspectors in the month of November following. They have since been examined in this Laboratory, and the results are detailed in the table which accompanies this report, in which the names of the various brands, their vendors and manufacturers, and some of the claims made by the latter for their articles, are also given. The following is a memorandum of the number of samples obtained in the various inspection districts:—

	Samples.
Nova Scotia	6
P. E. Island	3
New Brunswick	6
Quebec	12
St. Hyacinthe	10
Montreal	12
Ottawa	8
Kingston	8
Toronto	10
London	8
Manitoba	8
British Columbia	8
Total	99

The food inspectors were instructed to obtain as great a variety of these 'breakfast foods' as possible, and perhaps some have been collected which do not properly belong to that class, and which do not much differ from the rolled oats or wheaten flours described in former Bulletins (see Nos. 98 and 127). The whole of the work connected with these 99 samples was carried out by Mr. J. G. A. Valin and is to be considered as having a bearing on some of the points referred to by Mr. McGill in his report of 10th December, 1902, published in Bulletin No. 84 on Cereal Breakfast Foods. The expression "Breakfast Foods" seems to be used for indicating that an addition of some sort has been made to the cereal used as a basis, or that the latter has received a certain amount of "preparation" or "cooking." Mr. McGill says that the claim of the manufacturers of the cooked or malted foods is that by the process to which they have been subjected the "insoluble starch is converted into soluble maltose and dextrine." The extent to which such alterations have been made seems to be best indicated by the percentages of alcoholic or aqueous extract as ascertained by Mr. Valin. The process followed by him is known as the Crysotile or Asbestos Fibre Method, and consists in distributing the fine-ground sample through such fibre contained in Macfarlane tubes, and subjecting these to drying and hot percolation which give the results detailed in the tabulated statement. The first in the columns of results contains the total proteids, being the nitrogen determined by the Kjeldabl-Gladding method multiplied by 6·25. The second is headed "moisture" and signifies loss at 100° C. The third column gives the loss to

petrolic ether and is equivalent to fat. The fourth column shows the loss which the sample experienced from hot percolation with alcohol of 92 per cent.. which is capable of removing sugars as well as some soluble proteids. Column five gives the substances removed by warm water, after the alcohol treatment, which are chiefly dextrines originally present in the sample or derived from the starch in the "preparation" of the breakfast foods. The headings of the other columns explain themselves.

In the tabulated statement the results are given in the order of the various collection districts and as obtained by the food inspectors, but in the following arrangement I have placed the analyses together which belong to those foods of which more than one sample has been collected, and which seem therefore to have been in greatest demand. This tabulation also admits of indicating the average percentages of certain important constituents.

GRAPE NUTS.

No. of Sample.	Proteids N ×6·25.	Moisture.	Petrolic Ether Extract (Fat).	Hot Alcohol Extract (Sugars, &c.)	Warm Water Extract (Dextrines).	Crude Fibre.	Total Ash.	Starch approximately by difference.
28329	13·12	7·00	0·76	12·20	30·20	1·80	1·60	33·32
30202	10·94	4·72	0·40	14·96	31·84	1·70	1·06	34·38
25919	11·73	5·76	0·40	16·48	27·76	0·85	1·26	35·76
28190	11·67	5·60	0·00	15·68	27·84	1·00	1·42	37·39
Average.....	11·86	5·62	0·39	14·83	29·41			

PUFFED RICE.

25914	8·75	8·02	0·12	0·00	16·04	1·45	0·84	64·78
25916	8·31	8·24	0·00	0·00	20·80	0·75	1·00	60·90
	8·53	8·13	0·06		18·42			

QUAKER RICE.

32302	10·94	7·80	0·12	0·00	22·96	0·70	0·64	56·84
30204	11·35	9·20	0·00	0·00	17·12	0·60	0·40	61·33
30230	12·37	8·80	0·00	0·00	14·80	0·75	0·20	63.08
	11·55	8·60	0·04		18·29			

EGG-O-SEE.

582	12·06	8·16	0·20	1·92	11·80	2·50	1·82	61·54
27201	10·93	8·40	0·44	0·84	14·20	2·70	1·92	60·57
31624	13·25	7·48	0·52	0·44	14.84	1·90	1·40	60 17
29394	13·81	6·92	1·44	0·00	12·80	2·15	2·28	60·60
31018	12·25	8·04	0·00	2·20	12·48	1·70	1·88	61·45
	12·46	7·80	0·52	1·08	13·12			

CANADA FLAKES.

31615	11·87	7·20	0·20	2·88	11·52	2·25	2·56	61·52
29393	13·12	7·84	0·40	1·36	11·96	2·35	1·80	58·17
31015	12·56	7·84	1·00	4·32	13·36	2·40	2·56	55·96
31024	10·06	7·72	1·00	2·68	12·20	2·25	1·96	62·13
30220	13·12	8.56	0·32	2·92	11·40	1·60	1·92	60·16
25917	11·37	7·04	0·32	1·92	13·44	1·50	2·00	62·41
	12·01	7·70	0·54	3·18	12·31			

MALTA-VITA.

No. of Sample.	Proteids N. ×6·25.	Moisture.	Petrolic Ether Extract (Fat).	Hot Alcohol Extract (Sugar, &c.)	Warm Water Extract (Dextrines).	Crude Fibre.	Total Ash.	Starch approximately by difference.
28326	11·36	9·08	0·68	4·16	11·08	2·60	2·28	58·76
24291	12·25	5·75	1·20	4·20	11·68	2·60	2·28	60·04
26058	13·12	7·08	0·88	2·80	11·40	2·45	2·12	60·15
591	13·62	7·60	0·40	3·52	11·92	2·35	1·58	59·01
31618	14·00	7·16	0·40	2·64	11·28	2·00	1·60	60·92
30206	11·81	8·52	0·88	3·08	12·84	2·00	1·76	59·11
25911	10·50	7·44	0·00	1·80	14·40	1·65	1·62	62·59
	12·38	7·52	0.63	3·17	12·08			

ORANGE MEAT.

24294	11·87	9·76	0·56	2·08	9·92	2·99	1·36	61·56
26057	12·50	8·12	0·60	3·00	11·88	2·30	1·92	59·68
575	13·56	8·96	0·32	2·76	11·80	2·80	1·80	58·00
31614	13·62	6·92	0·48	4·20	12·84	2·35	2·00	57·59
31022	10·94	7·52	0·24	5·60	11·28	2·35	2·28	59·75
28189	11·37	8·00	0·28	7·04	12·16	1·50	1·80	57·89
	12·31	8·21	0·41	4·11	11·64			

VIM.

577	11·87	9·04	0·56	3·12	10·56	2·30	1·52	61·03
31613	13·56	7·60	0·08	3·96	11·92	2·35	2·00	58·53
	12·71	8·32	0·32	3·54	11·24			

BLANCO CERO.

28331	15·75	8·44	0·80	2·68	10·48	3·30	2·84	55·71
571	16·62	8·12	0·88	3·08	11·68	3·20	2·48	53·94
	16·18	8·28	0·84	2·88	11·08			

FORCE.

27202	10·50	7·84	0·52	2·28	9·88	2·55	1·66	64·77
27214	10·12	8·52	0·76	2·64	8·88	2·85	2·88	63·95
26055	13·43	8·40	1·40	2·72	10·24	2·70	1·64	59·47
31623	13·38	8·00	0·84	2·76	11·68	2·50	2·08	58·76
30207	10·94	8·44	0·96	0·84	11·64	2·48	1·52	63·18
32009	11·37	8·48	0·48	3·72	11·28	1·60	2·08	60·99
	11·62	8·28	0·83	2·49	10·60			

GUSTO.

27203	10·56	8·08	1·84	2·84	9·40	2·20	2·10	62·98
24290	12·93	6·80	1·36	3·36	8·40	3·50	1·80	61·85
26056	12·94	8·16	1·80	3·16	7·36	1·80	1·80	62·98
26061	12·93	8·56	1·60	0·92	11·36	2·60	1·60	61·03
576	11·37	8·92	1·44	1·28	10·52	2·40	1·22	62·85
31617	13·37	8·56	0·40	2·40	11·20	2·00	1·60	60·47
32303	13·25	6·56	1·12	3·44	12·00	3·30	2·04	58·29
30196	10·50	7·96	0·84	2·00	10·72	1·65	1·42	64·91
	12·23	7·95	1·30	2·42	10·12			

MALT BREAKFAST FOOD.

No. of Sample.	Proteids N. × 6·25.	Moisture.	Petrolic Ether Extract. (Fat).	Hot Alcohol Extract (Sugars, &c.)	Warm Water Extract (Dextrines).	Crude Fibre.	Total Ash.	Starch approximately by difference.
27207	11·87	6·60	1·20	10·08	7·32	1·30	1·16	60 47
580	14·43	8·08	1·08	6·56	8·72	1·65	1·24	58·24
31621	15·31	6·76	0·66	6·72	10·08	1·10	1·24	58 19
31020	14·00	7·60	0·60	6·96	9·44	1·65	0·82	58·93
30242	12·37	7·28	0·52	7 96	9·80	1·20	1·06	59·81
30247	11·37	7·68	0 08	6·96	9·24	1·50	1·48	61·69
25920	11 73	7·24	0 00	8·08	8·72	0·50	1·64	62·09
	13 01	7·46	0·58	7·61	9.05			

PETIT JOHN'S B. F.

581	12·56	9·76	0·60	0·92	7·32	2·45	1·60	64·79
25918	9·62	7·68	0.48	2·40	7·72	1·25	1·42	59·43
	11·09	8·72	0·54	1·66	7·52			

RALSTON HEALTH B. F.

31622	15·87	9·52	1·00	2·80	7·17	1·45	1·36	60·83
28196	13·25	9·44	0·00	2·40	6·00	1·25	1·28	66·38
	14·56	9·48	0·50	2·60	6·58			

CREAM OF WHEAT.

27215	11·87	9·60	0·48	1·92	2·08	0·60	0·80	72·6
578	12·25	9·84	0·00	0 00	6·44	0·40	0·60	70·47
31620	13·83	9·44	0·32	0·00	7·76	0·50	0·40	67·75
29392	14·00	9·52	0·76	0·00	7·20	0·45	0·32	67·75
	12·99	9·60	0·39	0 48	5·87			

THE KING'S FOOD.

24293	13·12	8·00	1·00	3·32	5·44	1·80	1·98	65·34
579	12·81	8·88	0·96	1·68	5·92	2·00	1·84	65·
	12·96	8·44	0·98	2·50	5·68			

QUAKER OATS.

26059	16·18	7·88	4·84	3·48	4·70	1·85	1·68	59·39
26062	16·18	8·04	4·76	3·60	4·80	2·30	1·56	58·76
29391	16·87	7·48	6·16	2 16	6 08	1·70	1·74	57·81
31019	13·12	7·60	5 08	3·44	5·48	2·40	1·80	61·08
25915	14·00	7·65	5·20	1·80	5·16	1 95	1·28	62·96
	15·27	7·73	5·21	2·89	5·24	2·04	1·62	60·00

BREAKFAST FOOD—NO TRADE MARK GIVEN.

26043	13 81	9·68	0 72	1·60	4·72	1·50	1·30	66·67
26046	12·94	9·32	0·84	2·24	4·36	1·85	1·44	67·01
26054	12·85	9·40	0·76	1·44	3·96	2·20	1·60	67·79
	13·20	9·46	0·77	1·76	4·34			

It is reasonable to assume that the greater the percentage of aqueous extract (after alcohol) found in the sample the greater is the extent to which the starch has been changed. In the following statement all the different brands collected have been arranged according to the amount of this percentage beginning with the highest.

No. of Sample.	Brand.	Proteids.	Fat.	Hot Alcohol Extract.	Aqueous Extract.
Average of 4 samples	Grape Nuts	11·86	0·39	14·83	29·41
28195	Malted Cereal	9·17	0·64	10·40	20·00
28188	Malta Ceres	14·00	0·24	6·48	18·72
Average of 2	Puffed Rice	8 53	0·06	0·00	18·42
" 3	Quaker Rice	11·55	0·04	0·00	18·29
31023	Toasted Corn Flakes	7·88	0 64	5·00	17·48
31619	Granose Flakes	11·00	0·16	4·56	13·92
30245	Norka	14·00	2·16	6·16	13 68
30244	Apitezo	15·31	0·00	3·52	13·44
29400	Zest	12·75	0·56	1·40	13·44
Average of 5	Egg-O-See	12·46	0·52	1·08	13·22
" 6	Canada Flakes	12·01	0·54	3·18	12·31
" 7	Malta Vita	12·38	0 63	3·17	12·08
" 6	Orange Meat	12·31	0·41	4·11	11·64
" 2	Vim	12·71	0·32	3·54	11·24
" 2	Blanco Cero	16·18	0·84	2·88	11·08
" 6	Force	11·62	0 83	2·49	10·60
31616	Swiss Food	13·12	1·04	2·32	10·50
Average of 8	Gusto	12·23	1·30	2·42	10·12
" 7	Malt Break. F	13·01	0·58	7·61	9·05
" 2	Petit John's Break. F	11·09	0·54	1·66	7·52
30205	Pancake Flour	10·50	0·16	4·00	7·28
24292	Shredded Wheat	12·68	1 20	0 00	7·08
30246	Buckwheat Flour	7·31	0·40	2·56	6·88
Average of 2	Ralstons	14 56	0·50	2·60	6·58
28193	Capitol Farina	8·31	0·60	0·00	6·40
30229	Cooks Flaked Rice	11·62	0·00	0·00	6·24
32301	Beaver Oats	16 87	5·64	1·96	5·88
Average of 4	Cream of Wheat	12·99	0·39	0·48	5 87
" 2	The King's Food	12·96	0·98	2·50	5·68
28191	Man Hard B. F	11·06	0·00	0·16	5 56
30203	Cerata Wheat	10·50	0·36	0·00	5·48
Average of 5	Quaker Oats	15·27	5·21	2·89	5·24
30199	Hecker's Homing	8·75	0·84	0·80	5·00
26060	Saxon Oats	16·18	4·32	3·20	5·00
31021	Quaker Corn Meal	8·12	6·48	1·60	4·88
30248	Hecker's Farina	11·37	0·00	0·00	4 56
26063	Pilson's Oats	16·00	5·72	3·28	4·52
Average of 3	Various B. F	13 20	0·77	1·76	4·34
24295	Gritz	14·68	1·96	3·36	3·76
30241	Hornby Oatmeal	16·62	6·00	2·20	1·42

If reference is made to Bulletin No. 127, it will be found that the percentage of aqueous extract (after alcohol) contained in the 12 samples of rolled oats there described, which have had no previous cooking, averages 2·12 and never exceeds 3·00. It would therefore seem to be reasonable to conclude that those breakfast foods prepared from oatmeal which yield more than 3 per cent aqueous extract have experienced "cooking" to some extent. It does not appear, however, that many of these breakfast food samples have been prepared from oats because only the following contain such an amount of fat as would indicate that origin :—

——	Proteids.	Fat.	Alcohol extract.	Aqueous extract.
	p. c.	p. c.	p. c.	p. c.
Beaver Oats	16·87	5·64	1·96	5·88
Quaker Oats	15·27	5·21	2·89	5·24
Saxon Oats	16·18	4·32	3·20	5·00
Pilson's Oats	16·00	5·72	3·28	4·52

It will be observed that these samples have all yielded more than 3 p.c. aqueous extract, and it may be inferred that these foods have experienced an amount of "preparation" corresponding to the percentage stated.

In the following table will be found the average analysis of 12 samples of rolled oats described in Bulletin No. 127 as well as of 2 samples of porridge made from the same article the one (I) without addition and the other (II) with an appropriate quantity of common salt:—

——	Total proteids.	Moisture.	Fat.	Alcohol extract.	Water extract.	Crude Fibre.	Total ash.	Starch approximately and by difference.
		p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	
Rolled oats (average)	12·56	8·71	4·74	3·77	2·12	1·64	1·45	65·01
Porridge I.	3·00	83·98	0·09	0·54	1·22	0·22	0·65	10·80
Duplicate.	2·88	83·11	0·12	0·07	1·31	0·26	0·62	11·62
Porridge II	3·00	82·96	0·20	1·14	2·38	0·20	0·92	9·20
Duplicate.	3·16	82·97	0·18	1·05	2·30	0·20	0·96	9·18

When these figures are calculated on the dry substance the results are as follows:

——	Total proteids.	Moisture.	Fat.	Alcohol extract.	Water extract.	Crude Fibre.	Total Ash.	Starch approximatively and by difference.
		p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	
Rolled Oats	13·76	...	5·19	4·13	2·32	1·80	1·59	71·21
Porridge I	18·72	...	0·55	0·34	7·62	1·37	3·90	67·41
" duplicate	17·04	...	0·70	0·37	7·78	1·52	3·81	68·79
" No. II	17·60	...	1·17	6·69	13·97	1·18	5·39	53·98
" duplicate	18·55	...	1·05	6·18	13·50	1·18	5·63	53·88

If the analyses of the four varieties of prepared oats above mentioned are calculated on their dry substance the resulting figures may be compared with those obtained from the analyses of the porridge samples. None of them however show more than 6·37 per cent. of aqueous extract which does not amount to one-half of that obtained when porridge is prepared in the old fashioned way. It is worthy of remark that the figures here recorded show that cooking oatmeal without salt is a very ineffective way of "predigesting" the starch which it contains. Porridge No. II, cooked with salt, contains twice the amount of soluble dextrines produced in preparing No. I. Another fact which is brought out by these tests is that the fat seems to disappear during the cooking. It is very probable, however, that it enters into some sort of combination with the proteids, such as renders it incapable of removal by the usual solvents. Dr. Chamberlain of Washington has

found that the fat of wheaten flour in the process of baking bread also enters into combination with the proteids.

For by far the greater number of the samples described in the tabulated statement it is claimed that they are made from wheat and judged by their percentages of aqueous extract, most of them have experienced such amounts of preparation as to make them, in different degrees, more easily digested than wheaten flour. Samples of the latter frequently show as much as 4 per cent of aqueous extract after alcohol, but it would seem unreasonable to look upon any foods from wheat as specially prepared unless yielding much more than that percentage. In considering the question as to what degree of "cooking" a "prepared breakfast food" should have undergone it is scarcely possible to avoid enquiring as to what amount of change wheaten flour undergoes in baking. To ascertain this the following analyses were made by Mr. Valin (in exactly the same manner as all the examinations above described), of dried bread crumb and dried bread crust. The former (I) in drying lost 31·96 per cent of its weight and the latter (II) 50·82 per cent:—

Bread.	Total proteids.	Moisture.	P. E. extract.	Alcohol extract.	Water extract.	Crude Fibre.	Total Ash.	Starch by difference.
(I) Crumb.....	12·67	2·56	0·00	0·00	16·32	0·70	1·06	66·69
Duplicate...	12·56	2·08	0·00	0·00	15·64	0·60	1·16	67·96
(II) Crust	12·75	0·36	0·40	3·56	13·20	0·75	1·16	67·82
Duplicate...	12·81	0·48	0·40	4·00	12·88	0·70	1·00	67·83

When these figures are calculated on the dry substance they show that bread contains from 13 to 16·75 per cent of substances soluble in water after alcohol, an amount which much exceeds that contained in most of the breakfast foods described in the tabulated statement. Assuming dry bread to contain an average of 15 per cent aqueous extract, and the moisture contained in breakfast foods to be about 8 per cent, it follows that, to be as well "prepared" as bread, the foods ought to show 13·8 per cent of aqueous extract. This, as shown in the figures given above, is the case with only about twenty per cent. of the brands collected.

For a good many of the samples described it is claimed that an addition to them of malt extract or of sugars has been made. The extent of this addition is roughly shown in the percentage of hot alcohol extract. But in the preparations from wheat a certain amount of this percentage may represent gliadin. The amount of this and other substances usually removed from wheaten flour by hot alcohol percolation is about five per cent and therefore it would be unsafe to regard those samples containing less than that as having had any malt or saccharine addition. It was not thought necessary to estimate the sugars present or determine those produced in cooking any of the samples by the action of the malt diastase which they might contain. The latter operation seems to lie beyond the scope of a food analysis, and besides, while "cooking is recommended" for some of the foods, in others it is stated to be unnecessary. An approximate estimation of the residual or insoluble starch has been made from which it will be seen that the "predigestion" claimed for many of the foods is not by any means complete, and that the use of the saliva and gastric juice cannot yet be dispensed with.

It has not been found advisable to introduce into the description of the various brands described all the claims made for them, some of which remind one of patent medicine advertising. But the essential features of the claims made are placed on record, and it is impossible to avoid remarking on the different degrees of subdivision effected in their treatment. That varies from "rolling" to "flaking" of a very complete character in which the grains are brought into the condition of thin, semitranslucent laminae. It is quite possible that this thinning out increases the digestibility but it is a question as to whether this change is worth the extra cost. It is not easy to get at

the price of these articles per pound owing to the indefinite and varying weights contained in the packages. But it seems to amount to from 5 to 23 cents per lb. Since oatmeal or wheaten flour is retailed at from 3 to 4 cents, it becomes a question as to how far the extra price is justified.

With reference to the question of adulteration it does not appear that any of the samples referred to in this report can be challenged with effect under any of the provisions of the Act. The names under which they are sold are too fanciful and indefinite and do not admit of being compared with their composition. Even in the case of those foods which claim to be "malted," and may not contain diastase it is doubtful as to whether they could be challenged in the absence of a standard.

I have the honour to be, sir,

Your obedient servant,

THOMAS MACFARLANE,

Chief Analyst.

RESULTS OF AN INSPECTION OF A COLLECTION

DISTRICT OF NOVA SCOTIA—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Cents.	Name and Address of Manufacturer or Furnisher.	From Inspector's Report.
1906.							
Nov. 5	Egg-O-See....	27201	J. Frank Crowe, Halifax, N.S.	1 lb....	10	Egg-O-See Cereal Co., Quincy, Ill., U.S.A.	Labelled 'Egg-O-See; made from choicest wheat;' drawn from 1 lb. package.
" 5	Breakfast Food Force.	27202	Bauld Bros. & Co., Halifax, N.S.	1 "	13	Force Food Co., Buffalo, N.Y.	Labelled 'the whole of wheat force combined with barley malt.'
" 5	Gusto....	27203	John Tobin & Co., Halifax, N.S.	1 "	10	The Hoco Mills Co., Buffalo, N.Y.	Labelled 'Gusto.'
" 5	Malt Breakfast Food.	27207	W. C. Anderson, George St., Halifax, N.S.	2 "	18	The Malted Cereal Co., Burlington, Vt., U.S.A.	Labelled 'the choicest whole wheat combined with the best barley malt: rich in malt gluten and phosphate.'
" 7	Force Breakfast Food.	27214	S. L. Cross, Kentville, N.S.	1 "	15	Force Food Co., Buffalo, N.Y.	Labelled 'the natural food for creating power, &c.'
" 8	Cream of Wheat.	27215	Wentworth Stores, Windsor, N.S.	2 "	20	Cream of Wheat Co., Minneapolis, Min.	Sold as 'cream of wheat.'

DISTRICT OF PRINCE EDWARD ISLAND—

Nov. 5	Malta Vita...	28326	Brace & McKay, Summerside.	3 pkgs..	45	Malta Vita Pure Food Co.	Labelled 'concentrated malted food; ready to eat. Pure pre-digested, thoroughly cooked, prepared from selected wheat, barley malt and other ingredients.'
" 6	Grape Nuts..	28329	Geo. Rackham, Charlottetown.	3 " ..	45	Postum Cereal Co., Battle Creek, Mich.	Labelled 'a food for brain and nerve centres; fully cooked; pre-digested; dextrose and grape sugar; made by special treatment from wheat and barley.'

SESSIONAL PAPER No. 14

OF SAMPLES OF BREAKFAST FOODS.

R. J. WAUGH, INSPECTOR.

Additional Observations and Quotations from Label.	Results of Analysis. Total Proteids. N × 6·25.	Moisture.	Petrolic Ether Extract (Fat).	Alcohol Extract. (Sugars, &c.)	Water Extract. (Dextrines).	Crude Fibre.	Total Ash	Starch approximately by difference.	No. of Sample.	Remarks by Analyst. (Microscopical Examination).
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.		
In flakes; not sweet tasted.	10·93	8·40	0·44	0·84	14·20	2·70	1·92	60·57	27201	Apparently wheat; granules much broken.
" "	10·50	7·84	0·52	2·28	9·88	2·55	1·66	64·77	27202	" "
" "	10·56	8·08	1·84	2·84	9·40	2·20	2·10	62·98	27203	Starch granules all broken.
Granular; not sweet tasted.	11·87	6·60	1·20	10·08	7·32	1·30	1·16	60·47	27207	Wheat or barley starch; probably a mixture.
Flaked; not sweet tasted.	10·12	8·52	0·76	2·64	8·88	2·85	2·28	63·95	27214	Starch granules much broken; apparently wheat.
Finely granular.....	11·87	9·60	0·48	1·92	2·08	0·60	0·80	72·65	27215	Wheat starch.

T. MOORE, INSPECTOR.

Flaked; not sweet tasted.	11·36	9·08	0·68	4·16	11·08	2·60	2·28	58·76	28326	Starch granules much broken; wheat or barley.
Coarsely granular; sweetish tasted; brown coloured.	13·12	7·00	0·76	12·20	30·20	1·80	1·60	33 32	28329	Wheat or barley; probably a mixture of both.

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RESULTS OF AN INSPECTION OF A COLLECTION

DISTRICT OF PRINCE EDWARD ISLAND—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Cents.	Name and Address of Manufacturer or Furnisher.	From Inspector's Report.
1906.							
Nov. 6	Blanco-Cero ..	28331	Sanderson & Co., Charlottetown.	3 " ..	45	C. F. Blanke & Co., St. Louis, Mo.	Blanco Cero, cooked and ready to serve; scientifically prepared from whole grain.'

DISTRICT OF NEW BRUNSWICK—

Nov. 15	Gusto	24290	Hall & Fairweather, 719 Ward St., St. John, N.B.	3 pkgs .	25	The Hogo Mills, Buffalo, N.Y.	Labelled 'Gusto; ready for the table. Crisp, delicious wheat food.'
" 16	Malta Vita...	24291	The Two Barker's, Ltd., 500 Princess St., St. John, N.B.	3 " ..	30	Malta Vita Pure Food Co., Battle Creek, Mich.	Labelled 'the perfect food; guaranteed absolutely pure concentrated malted food.'
" 17	Shredded WholeWheat	24292	Charles A. Clark, 49 Charlotte St., St. John, N.B.	3 " ..	45	Canadian Shredded Wheat Co., Ltd., Niagara Falls, Ont.	Labelled shredded wheat. Patented May 27, 1896.
" 19	The King's Food.	24293	W. F. Hatheway Co., Ltd., 17-18 South Wharf, St. John, N.B.	3 " ..	75	The Robert Greig Co., Ltd., Toronto, Ont.	Labelled 'The King's Food. Made in Canada. Ideal wheat food, &c
" 20	Orange Meat.	24294	McPherson Bros., 181 Union St., St. John, N.B.	3 " ..	45	The Frontenac Cereal Co., Ltd., Kingston, Ont.	Labelled 'Orange Meat; made in Canada; requires no cooking; ready to serve.'
" 20	Gritz.....	24295	W. F. Hatheway Co., Ltd., 17-18 South Wharf, St. John, N.B.	3 " ..	35	Vendors.	Trade mark 'Gritz.' This article of food is ahead of oatmeal.

DISTRICT OF QUEBEC—

Nov. 12	BreakfastFood	26043	François Bourrett, 143 St. Paul, Que.	2 lbs.	15	N. Rioux et Cie.....	....
" 12	"	26046	Ozias Lacroix, 19 St. Joseph, Que.	2 "	15	Thomas Davidson, Que	....
" 13	"	26054	L. N. Bergeron, 20 Couronne St., Que.	1 "	30	Not known	.....

SESSIONAL PAPER No. 14

OF SAMPLES OF BREAKFAST FOODS—*Continued.*

T. MOORE, INSPECTOR—*Continued.*

Additional Observations and Quotations from Label.	Results of Analysis.								No. of Sample.	Remarks by Analyst (Microscopical Examination).
	Total Proteids N x 6·25.	Moisture.	Petrolic Ether Extract (Fat).	Alcohol Extract. (Sugars, &c.)	Water Extract. (Dextrines).	Crude Fibre.	Total Ash.	Starch approximately by difference.		
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.		
Contents of 1 package weigh 1 lb.	15·75	8·44	0·80	2 68	10·48	3·30	2·84	55·71	28331	Wheat starch.

J. C. FERGUSON, INSPECTOR.

Contents of package weigh 19 ounces.	12·93	6·80	1·36	3·36	8·40	3·50	1·80	61·85	24290	Wheat starch.
Contents of package weigh 12½ oz.	12·25	5·75	1·20	4·20	11·68	2·60	2 28	60·04	24291	Starch granules much broken; wheat or barley.
Food in 1 package weighs 13½ oz.	12 68	8·00	1·20	0·00	7·08	2·70	1·80	66·54	24292	Wheat starch.
Rolled; made from selected Canadian wheat. 1 package contains 3 lbs. 6 oz.	13·12	8 00	1·00	3·32	5·44	1·80	1.98	65·34	24293	"
One package contains 19 oz.	11·87	9·76	0 56	2·08	9·92	2·90	1·36	61·55	24294	Apparently wheat starch granules; much broker.
. ...	14·68	9·84	1·96	3·36	3·76	1·25	1·52	63·63	24295	Wheat starch; possibly barley.

E. BELAND, INSPECTOR.

Fine grained but not so fine as flour; some grains yellowish coloured.	13·81	9·68	0·72	1·60	4·72	1·50	1·30	66·67	26043	Wheat starch; possibly barley.
In flakes.....	12·94	9·32	0 84	2·24	4·36	1·85	1·44	67·01	26046	" "
Rolled...	12·85	9·40	0·76	1·44	3·96	2·20	1·60	67·79	26054	" "

RESULTS OF AN INSPECTION OF A COLLECTION

DISTRICT OF QUEBEC—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Cents.	Name and Address of Manufacturer or Furnisher.	From Inspector's Report.
1906.							
Nov. 14	Force.....	26055	George Larochel, 64 du Pont St., Que.	2 lbs.	15	Turcotte et frère, Que.	. . . . .
" 14	Gusto	26056	" "	2 "	15	" "	.....
" 14	Orange Meat..	26057	" "	2 "	15	" "	... .
" 14	Malta Vita ...	26058	" "	2 "	15	" "	....
" 14	Quaker Oats..	26059	" "	2 "	10	" "	....
" 14	Saxon Oats...	26060	" "	2 "	15	" "	....
" 14	Gusto	26061	H. St. Cyr, 95 du Pont St., Que.	2 "	15	Whitehead & Turner, Que.	.. ..
" 14	Quaker Oats..	26062	" "	2 "	10	" "	....
" 14	Pilson's Oats..	26063	" "	2 "	25	" "	....

DISTRICT OF ST. HYACINTHE—

Nov. 7	Orange Meat.	575	Godreau & Stebens, St. Jean, Que.	1 lb.	15	Frontenac Cereal Co., Kingston, Ont.	Marked as "Scientifically prepared. Every particle is perfectly cooked and easily digested."
" 8	Gusto	576	H. Paré, Granby, Que.	1 "	10	The Hoco Mills, Buffalo, N. Y.	Called "Crisp delicious food."
" 8	Vim...	577	J. A. Menard, Farnham, Que.	13 ozs.	10	Malta Vita Pure Food Co., Toronto, Ont.	Marked "The good food; whole wheat, cooked and baked; ready to serve with hot or cold milk."
" 9	Cream of Wheat.	578	A. H. Moore, Magog, Que.	29 "	20	Cream of Wheat Co., Minneapolis, Minn.	It is stated that "Cream of Wheat is not only one of the most delicate and delicious breakfast foods but in addition contains a very large percentage of gluten."

SESSIONAL PAPER No. 14

OF SAMPLES OF BREAKFAST FOODS—*Continued.*

E. BÉLAND, INSPECTOR—*Continued.*

Additional Observations and Quotations from Label.	Results of Analysis.								No. of Sample.	Remarks by Analyst. — (Microscopical Examination).
	Total Proteids. N × 6·25.	Moisture.	Petrolic Ether Extract (Fat).	Alcohol Extract. (Sugars, &c.)	Water Extract. (Dextrines).	Crude Fibre.	Total Ash.	Starch approximately by difference.		
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.		
In flakes..... ...	13·43	8·40	1·40	2·72	10·24	2·70	1·64	59·47	26055	Apparently wheat starch: granules much broken.
"	12·94	8·16	1·80	3·16	7·36	1·80	1·80	62·98	26056	" "
"	12·50	8·12	0·60	3·00	11·88	2·30	1·92	59·68	26057	Starch granules much broken; apparently wheat starch.
"	13·12	7·08	0·88	2·80	11·40	2·45	2·12	60·15	26058	Starch granules much broken: wheat or barley.
Flaked or rolled....	16·18	7·88	4·84	3·48	4·70	1·85	1·68	59·39	26059	Starch, oat.
"	16·18	8·04	4·32	3·20	5·00	2·90	1·82	58·54	26060	Oat starch.
In flakes....	12·93	8·56	1·60	0·92	11·36	2·00	1·60	61·03	26061	Starch granules much broken; probably wheat starch.
Rolled or flaked.....	16·18	8·04	4·76	3·60	4·80	2·30	1·56	58·76	26062	Oat starch.
"	16·00	7·60	5·72	3·28	4·52	1·85	1·72	59·31	26063	"

J. C. ROULEAU, INSPECTOR.

... .	13·56	8·96	0·32	2·76	11·80	2·80	1·80	58·00	575	Starch granules much broken; apparently wheat starch
....	11·37	8·92	1·44	1·28	10·52	2·40	1·22	62·85	576	Starch granules much broken: probably wheat starch.
In flakes.	11·87	9·04	0·56	3·12	10·56	2·30	1·52	61·03	577	Starch granules much broken; apparently wheat starch.
Finely granular, yellowish coloured.	12·25	9·84	0·00	0·00	6·44	0·40	0·60	70·47	578	Wheat starch.

RESULTS OF AN INSPECTION OF A COLLECTION

DISTRICT OF ST. HYACINTHE

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Cents.	Name and Address of Manufacturer or Furnisher.	From Inspector's Report.
1906.							
Nov. 9	King's Food..	579	L. H. Olivier, Sherbrooke, Que.	2¾ lbs.	25	The Robert Greig Co., Ltd., Toronto.	Labelled as "The ideal wheat food. Choicest product from carefully selected Canadian wheat."
" 9	Malt Breakfast Food.	580	F. A. Bourque et Cie. Sherbrooke, Que.	2 pkgs.	30	The Malted Cereal Co., Burlington, Vt.	Called "The original and standard malt wheat cereal."
" 14	Blanco Cero..	571	A. Lamothe, St. Ours, Que.	17 ozs.	10	C. F. Blanke & Co., St. Louis.	.....
" 15	Petit John's Breakfast Food.	581	O. Lambert, Iberville, Que.	30 "	15	The American Cereal Co., Chicago, Ill.	.....
" 17	Egg-O-See....	582	Thos. Hébert, St. Hyacinthe, Que.	13 "	13	Battle Creek Breakfast Food Co., Quincy, Ill.	.....
" 17	Malta Vita...	591	E. Benoit, St. Hyacinthe, Que.	14 "	10	Malta Vita Pure Food Co., Battle Creek, Mich.	.....

DISTRICT OF MONTREAL—

Nov. 7	Vim.....	31613	The S. Carsley Co., Ltd., Montreal.	2 pkgs..	20	Malta Vita Pure Food Co.	Each package weighed 14 oz. "Toasted wheat."
" 7	Orange Meat .	31614	" "	1 " ..	15	Frontenac Cereal Co., Kingston, Ont.	Package weighed 1¼ lbs.
" 7	Canada Flakes	31615	" "	1 " ..	15	Peterboro' Cereal Co., Peterboro', Ont.	Package weighed 1¼ lbs., made from Manitoba wheat.
" 7	Swiss Food...	31616	" "	1 " ..	15	P. McIntosh & Son, Toronto.	Package weighed 2 lbs. 10 ozs.
" 7	Gusto.....	31617	Howe, McIntyre & Co., Youville Place, Montreal.	1 " ..	08	Pawnee Cereal Co., Cedar Rapids, Iowa.	Weight of package 1 lb. A toy for children in each package.
" 7	Malta Vita...	31618	" "	1 " .	08	Malta Vita Pure Food Co., Battle Creek, Mich.	Weight of package 14 ozs. "Combines the well known food values of wheat and the medicinal values of malt."

SESSIONAL PAPER No. 14

OF SAMPLES OF BREAKFAST FOODS—*Continued.*

J. C. ROULEAU, INSPECTOR—*Continued.*

Additional Observations and Quotations from Label.	Results of Analysis.								No. of Sample.	Remarks by Analyst. (Microscopical Examination).
	Total Proteids N × 6·25.	Moisture.	Petrolic Ether Extract (Fat).	Alcohol Extract. (Sugars, &c.)	Water Extract. (Dextrines).	Crude Fibre.	Total Ash.	Starch approximately by difference.		
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.		
....	12·81	8·88	0·96	1·68	5·92	2·00	1·84	65·91	579	Wheat starch.
Said to be wheat combined with Malt-diastase. Recommended to "cook thoroughly." One package contains 13 ozs.	14·43	8·08	1·08	6·56	8·72	1·65	1·24	58 24	580	Wheat or barley starch; probably a mixture of both.
....	16·62	8·12	0·88	3·08	11·68	3·20	2·48	53·94	571	Wheat starch.
....	12·56	9·76	0·60	0·92	7·32	2·45	1·60	64·79	581	Wheat or barley; probably wheat.
....	12·06	8·16	0·20	1·92	11·80	2·50	1·82	61·54	582	Starch granules much broken; apparently wheat starch.
... .	13·62	7·60	0·40	3·52	11·92	2·35	1·58	59·01	591	Wheat or barley starch; granules much broken.

J. J. COSTIGAN, INSPECTOR.

Flaked; "whole wheat steamed, cooked and baked." "Ready to serve."	13·56	7·60	0·08	3·96	11·92	2·35	2·00	58·53	31613	Starch granules much broken; apparently wheat starch.
Flaked; requires no cooking. "Ready to serve."	13·62	6·92	0·48	4·20	12·84	2·35	2·00	57·59	31614	" "
May be eaten in any condition.	11·87	7 20	0·20	2·88	11·52	2·25	2·56	61·52	31615	" "
Rolled; "Partly cooked" but nevertheless cooking for 10 or 12 minutes recommended.	13·12	9·20	1·04	2 32	10·50	1·80	1·44	60·58	31616	Wheat starch.
Wheat flakes." "Ready to serve."	13·37	8·56	0·40	2·40	11·20	2·00	1·60	60·47	31617	Starch granules much broken; apparently wheat starch.
Flaked; "Concentrated, malted thoroughly, cooked, predigested and always ready."	14·00	7·16	0·40	2·64	11·28	2·00	1·60	60·92	31618	Wheat or barley starch

RESULTS OF AN INSPECTION OF A COLLECTION OF

DISTRICT OF MONTREAL—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Cents.	Name and Address of Manufacturer or Furnisher.	From Inspector's Report.
1906.							
Nov. 7	Granose Flakes	31619	Howe, McIntyre & Co., YouvillePlace, Montreal.	1 pkg.	08	Battle Creek Health Food Co.	Canadian Agency, London, Ont. Weight of package 1 lb.
" 7	Cream of Wheat.	31620	" "	1 "	16	Cream of Wheat Co.	Weight of package 2 lbs. "Made from Hard Spring Wheat."
" 7	Malt Breakfast Food.	31621	Brouillet & Guay, 77 University St., Montreal.	1 "	20	Malted Cereal Co., Burlington, Vt.	Weight of package 2 lbs. "The whole being of the finest gluten wheat of the North-west."
" 7	RalstonHealth Breakfast Food.	31622	" "	1 "	20	Ralston Purina Co., St. Louis, Mo.	Weight of package 2 lbs.
" 7	Force	31623	P. Campbell & Co., 42 Victoria St., Montreal.	1 "	13	Force Food Co	Weight 1 lb. A simple preparation of whole wheat and barley malt.
" 7	Egg-O See	31624	" "	1 "	13	Manufactured at Quincy, Ill.	Weight 1 lb. A simple preparation of whole wheat and barley malt.

DISTRICT OF OTTAWA—

Nov. 14	Quaker Oats	29391	George Thomas, 63 George St., Ottawa	3 pkgs., 2 lbs.	30	American Cereal Co., Peterboro', Ont.	Marked ——— "Quaker rolled white oats. Quaker brand. Made in Canada."
" 14	Cream of Wheat.	29392	" "	3 "	60	Cream of Wheat Co., Minneapolis, Minn.	Said to be "made from choisest selected hard spring wheat."
" 14	Canada Flakes	29393	" "	3 "	45	Peterboro' Cereal Co.	Made in Canada from Manitoba wheat.
" 14	Egg O-See	29394	" "	3 "	45	Quincy, Illinois, U.S.A.	Said to be "made from choisest wheat."

SESSIONAL PAPER No. 14

SAMPLES OF BREAKFAST FOODS—*Continued.*

J. J. COSTIGAN, INSPECTOR—*Continued.*

Additional Observations and Quotations from Label.	Results of Analysis. Total Proteids N × 6·25.	Moisture.	Petrolic Ether Extract (Fat).	Alcohol Extract. (Sugars, &c.)	Water Extract (Dextrines).	Crude Fibre.	Total Ash.	Starch approximately by difference.	No. of Sample.	Remarks by Analyst. — (Microscopical Examination.)
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.		
"Perfectly cooked; ready to eat at once."	11·00	7·20	0·16	4·56	13·92	2·60	2·28	58·28	31619	Starch granules a broken.
Fine grained; cooking recommended.	13·83	9·44	0·32	0·00	7·76	0·50	0·40	67·75	31620	Wheat starch.
"Thoroughly parched and sterilized; then scientifically combined with the natural digestive agent malt diastase."	15·31	6·76	0·60	6·72	10·08	1·10	1·24	58·19	31621	Wheat or barley starch; probably a mixture.
....	15·87	9·52	1·00	2·80	7·17	1·45	1·36	60·83	31622	Wheat starch.
"The work of digestion already half done."	13·38	8·00	0·84	2·76	11·68	2·50	2·08	58·76	31623	Starch granules all broken.
Flaked; "Thoroughly steam cooked. Ready to use."	13·25	7·48	0·52	0·44	14·84	1·90	1·40	60·17	31624	Starch granules much broken; apparently wheat.

A. E. SANDERSON, INSPECTOR.

Cooking recommended. 1 package contains 2 lbs.	16·87	7·48	6·16	2·16	6·08	1·70	1·74	57·81	29391	Oat starch.
Cooking required; 1 package contains 28 oz.	14·00	9·52	0·76	0·00	7·20	0·45	0·32	67·75	29392	Wheat starch.
"Elle est toujours preparée et toujours delicieuse."	13·12	7·84	0·49	4·36	11·96	2·35	1·80	58·17	29393	Starch granules much broken; apparently wheat.
"Pure healthful syrups are used." 1 package contains 11 ozs.	13·81	6·92	1·44	0·00	12·80	2·15	2·28	60·60	29394	" "

RESULTS OF AN INSPECTION OF A COLLECTION

DISTRICT OF OTTAWA—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Cents.	Name and Address of Manufacturer or Furnisher.	From Inspector's Report.
1906.							
Nov. 15	Zest.....	29400	J. Currell, 86 Queen St. west, Ottawa.	3 pkgs.	30	Quaker Oats Co., Chicago.	Marked, "Ready to eat," and "made of the finest Pacific Coast white wheat" also "thoroughly cooked."
" 19	Beaver Oats..	32301	F.A. Scott, 292 Wellington St., Ottawa	1 " ..	25	P. McIntosh & Son, Toronto	Beaver rolled oats.
" 19	Quaker Puffed Rice.	32302	" "	3 " ..	30	American Cereal Co., Chicago.	Quaker puffed rice; a prepared breakfast food.
" 19	Gusto.....	32303	" "	3 " ..	45	Pawnee Cereal Co., Cedar Rapids, Iowa, U.S.A.	"Wheat food"..

DISTRICT OF KINGSTON—

Nov. 6	Canada Flakes	31015	James McCulla, Montreal, St., Kingston	6 lbs..	45	Peterboro' Cereal Co..	Made from Mantoba wheat.
" 6	Egg-O-See....	31018	P. A. Haffner, Montreal, St., Kingston	6 " ..	45	Manufactured at Quincy, Ill., U.S.A.	Made from choicest wheat.
" 6	Quaker Oats..	31019	Vincent Oakley, Brock St., Kingston.	6 " ..	30	American Cereal Co., Peterboro'.	Rolled white oats.
" 7	Malt Breakfast Food.	31020	Wallbridge & Clarke, Bridge St., Bellville.	6 " ..	60	The Malted Cereal Co., Burlington, Vermont	All the virtues of malt; all the strength of wheat.
" 7	Quaker Corn Meal.	31021	" "	6 " ..	30	Quaker Oats Co., Chicago.	(Yellow granulated) "It is made only of the crystal part of choice yellow corn."

SESSIONAL PAPER No. 14

OF SAMPLES OF BREAKFAST FOODS—*Continued.*

A. E SANDERSON, INSPECTOR—*Continued.*

Additional Observations and Quotations from Label.	Results of Analysis. Total Proteids N × 6·25.	Moisture.	Petrolic Ether Extract (Fat).	Alcohol Extract. (Sugars, &c.)	Water Extract. (Dextrines).	Crude Fibre.	Total Ash.	Starch approximately by difference.	No. of Sample.	Remarks by Analyst. (Microscopical Examination).
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.		
1 package contains 7 ozs	12·75	7·80	0·56	1·40	13·44	3·50	2·10	58·45	29400	Starch granules much broken ; apparently wheat or barley.
Cooking recommended.	16·87	6·52	5·64	1·96	5·88	1·95	1·76	59·42	32301	Oat starch.
"The wonderful invention of puffing rice cooks the starch granules so thoroughly that Quaker puffed rice is very largely a predigested food." 1 package contains 7 oz.	10·94	7·80	0·12	0·00	22·96	0·70	0·64	56·84	32302	Starch granules very much broken.
"Wheat flakes ready to serve." 1 package contains 17 oz.	13·25	6·56	1·12	3·44	12·00	3·30	2·04	58·29	32303	Starch granules much broken ; apparently wheat.

J. HOGAN, INSPECTOR.

'Serve cold or warm." 1 package contains 19½ ozs.	12·56	7·84	1·00	4·32	13·36	2·40	2·56	55·96	31015	Starch granules much broken.
"Good to eat at any time."	12·25	8·04	0·00	2·20	12·48	1·70	1·88	61·45	31018	Starch granules much broken ; apparently wheat starch.
....	13·12	7·60	5·08	3·44	5·48	2·40	1·80	61·08	31019	Oat starch.
*	14·00	7·60	0·60	6·96	9·44	1·65	0·82	58·93	31020	Wheat or barley starch ; probably a mixture.
1 package contains 2 lbs. 15 ozs.	8·12	10·04	0·48	1·60	4·88	1·60	0·20	73·08	31·21	Maize starch.

*Analysis :—

Proteids (brain, nerve and muscle food) ..	11·63
Carbohydrates (heat and flesh producers) ..	77·00
Fat	1·75
Lignose and cellulose	0·73
Ash (phosphates, lime, &c.)	1·05
Water	7·84
	100·00

7-8 EDWARD VII., A. 1908

RESULTS OF AN INSPECTION OF A COLLECTION

DISTRICT OF KINGSTON—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Cents.	Name and Address of Manufacturer or Furnisher.	From Inspector's Report.
1906.							
Nov. 7	Orange Meat	31022	Wallbridge & Clarke, Bridge St., Bellville.	4 lbs.	45	Frontenac Cereal Co., Kingston.	....
" 7	Toasted Corn Flakes.	31023	O. S. Hicks, Front St., Belleville.	1½ "	30	W. R. Kellogg, Battle Creek, Mich.	Used and recommended by the Battle Creek Sanitorium.
" 7	Canada Flakes	31024	" "	4 "	45	Peterboro' Cereal Co.	Made from Manitoba wheat.

DISTRICT OF TORONTO—

Nov. 14	Canada Flakes	30220	Peter Anderson, grocer, Guelph.	3 pkgs.	15	Peterboro' Cereal Co.	"From golden grain to package form no human hand touches Canada Flakes."
" 16	Cook's Flaked Rice.	30229	Michie & Co., Ltd., King st., Toronto.	1 "	20	American Rice Food Co., Matawan, N.J.	Made from Louisiana and Texas rice.
" 16	Quaker Puffed Rice.	30230	" "	1 "	10	American Cereal Co., Chicago, U.S.A.	"Only the very best grade of rice is used.
" 21	Hornby's Oatmeal.	30241	" "	1 "	20	Hornby Co., N.Y	Process: Drying in fire kilns, impurities removed, steam cooking the kernels for several hours, therby converting the starch into dextrine and drying by superheated air
" 21	Malted Food	30242	" "	1 "	18	Malted Cereal Co., Burlington, Vt.	....
" 22	Apitezo	30244	Midland Bros., 128 King st., Toronto.	3 " 1 "contains 18 oz.	45	American Cereal Co., Chicago, U.S.	Claimed to be made of "grain combined with vegetable or plant iron."

SESSIONAL PAPER No. 14

OF SAMPLES OF BREAKFAST FOODS—*Continued.*

J. HOGAN, INSPECTOR—*Continued.*

Additional Observations and Quotations from Label.	Results of Analysis. Total Proteids N. × 6·25.	Moisture.	Petrolic Ether Extract (Fat).	Alcohol Extract. (Sugars, &c.)	Water Extract. (Dextrines).	Crude Fibre.	Total Ash.	Starch approximately by difference.	No. of Sample.	Remarks by Analyst — (Microscopical Examination).
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.		
"Requires no cooking; all ready to eat."	10·94	7·52	0·24	5·60	11·28	2·35	2·28	59·79	31022	Starch granules much broken; probably wheat.
Finely flaked. One package contains 4½ ozs.	7·88	6·08	0·64	5·00	17·48	2·60	1·16	59·16	31023	Starch granules much broken; apparently maize starch.
"The wheat is thoroughly washed and scientifically prepared by the latest improved machinery."	10·06	7·72	1·00	2·68	12·20	2·25	1·96	62·13	31024	Starch granules very much broken; probably wheat.
T. KIDD, ACTING INSPECTOR.										
All of the wheat toasted, ready to eat. 1 package contains 7 ozs.	13·12	8·56	0·32	2·92	11·40	1·60	1·92	60·16	30220	Starch granules very much broken; probably wheat.
"Don't cook"	11·62	8·84	0·00	0·00	6·24	0·75	0·40	72·15	30229	Starch granules very much broken; probably rice.
"Thoroughly cooked and steralized."	12·37	8·80	0·60	0·00	14·80	0·75	0·20	63·08	30230	"
"Steam cooked," but nevertheless directions given for cooking.	16·62	7·80	6·00	2·20	1·42	2·40	1·40	62·16	30241	Oat starch.
	12·37	7·28	0·52	7·96	9·80	1·20	1·06	59·81	30242	Wheat or barley; probably a mixture.
	15·31	7·84	0·00	13·52	13·44	1·50	2·02	46·37	30244	Starch granules very much broken. The analysis on label cannot be sustained.

* Analysis:—

Fat	0·99
Protein	19·00
Dextrinized carbohydrates and cellulose	54·67
Grape sugar	16·00
Ash	1·67
Moisture	7·77

7-8 EDWARD VII., A. 1908

RESULTS OF AN INSPECTION OF A COLLECTION OF

DISTRICT OF TORONTO—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Cents.	Name and Address of Manufacturer or Furnisher.	From Inspector's Report.
1906.							
Nov. 22	Norka	30245	Simpson & Co., Ltd., Yonge st., Toronto	1 pkg. containing 10 oz	15	Norka Food Co., Battle Creek, U.S.	Labelled as "Cooked and malted oat food." "The Twentieth Century Food"
" 22	Buckwheat Flour.	30246	" " ..	1 " ..	10	F. F. Dalley & Co., Hamilton.	"Selfraising Royal Hygienic flour."
" 22	Malt Breakfast Food.	30247	" " ..	1 " ..	15	H. P. Eckart, wholesale grocer, Toronto.	"The choicest whole wheat scientifically combined with the best barley malt."
" 22	Hecker's Farina.	30248	T. Eaton & Co., Yonge st., Toronto.	3 " ..	30	Hecker, Jones & Jewell Milling Co., N.Y.	Labelled as made from the heart of selected wheat.

DISTRICT OF LONDON—

Nov. 2	Toy Guster...	30196	Thomas Langlois, grocer, Windsor, Ont.	1 " ..	10	J. F. Smith, wholesale grocer, London, Ont.	Wheat flakes "For health, strength and good cheer."
" 3	Hecker's Hominy.	30199	Hugh Malcomson, grocer, Chatham, Ont.	1 " ..	12	Hecker, Jones & Jewell Co., N.Y.	.....
" 3	Grape Nuts...	30202	Edward O'Flaherty, grocer, Stratford, Ont.	3 " ..	45	Postum Cereal Co., Battle Creek, Mich.	Said to be made by special treatment of wheat and barley, dextrose and grape sugar.
" 3	Cereta Wheat Food.	30203	Walsh Bros., grocer, Stratford, Ont.	3 " .. 1 " con t. 21 ozs.	30	Manufacturers of Quaker Oats.	Labelled as "milled from the very choicest part of the wheat."
" 5	Quaker Puffed Rice.	30204	Williams & Purcell, Seaforth, Ont.	3 pkgs..	45	The American Cereal Co., Chicago.	Patented Aug., 1902; Aug. and Sept., 1904.
" 5	Pancake Flour	30205	A. G. Ault, Seaforth, Ont.	3 " ..	45	Davis Milling Co., St. Joseph, U.S.	Labelled "Aunt Jemimas Pancake flour for griddle cakes, muffins and gems. Made of wheat, corn and rice."
" 5	Malta Vita...	30206	Henry Levins, Seaforth, Ont.	3 " ..	30	Pure Food Co., Toronto	Labelled "Concentrated malted food."

SESSIONAL PAPER No. 14

SAMPLES OF BREAKFAST FOODS—*Continued.*

T. KIDD, ACTING INSPECTOR—*Continued.*

Additional Observations and Quotations from Label.	Results of Analysis.								No. of Sample.	Remarks by Analyst. —. (Microscopical Examination).
	Total Proteids. N × 6·25.	Moisture.	Petrolic Ether Extract (Fat).	Alcohol Extract. (Sugars, &c.)	Water Extract. (Dextrines).	Crude Fibre.	Total Ash.	Starch approximately by difference.		
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.			
"Ready to eat; heat before serving."	14·00	6·24	2·16	6·16	13·68	1·00	2·26	54·50	30245	Starch granules very much broken; The analysis on label cannot be sustained.
"Always ready for immediate use."	7·31	9·60	0·40	2·56	6·88	1·00	4·28 2·46	67·97	30246	Buckwheat starch.
.....	11·37	7·68	0·08	6·96	9·24	1·50	1·48	61·63	30247	Wheat or barley starch; probably a mixture.
.....	11·37	9·60	0·00	0·00	4·56	0·50	0·70	73·27	30248	Wheat starch.

T. KIDD, INSPECTOR.

Ready to serve. . .	10·50	7·96	0·84	2·00	10·72	1·65	1·42	64·91	30196	Starch granules much broken; probably wheat starch.
Directions given for cooking.	8·75	10·00	0·84	0·80	5·00	1·00	0·20	73·41	30199	Maize starch.
"Don't try to cook this food. It is perfectly cooked at the factory. Serve dry just as it comes from the package."	10·94	4·72	0·40	14·96	31·84	1·70	1·06	34·38	30202	Starch granules very much broken.
Directions given for cooking.	10·50	9·44	0·36	0·00	5·48	1·05	0·46	72·71	30203	Wheat starch.
. . . . .	11·35	9·20	0·00	0·00	17·12	0·60	0·40	61·33	30204	Starch granules much broken; probably rice.
"Always ready for the table, no yeast, no salt."	10·50	8·56	0·16	4·00	7·28	2·40	3·20	63·90	30205	Starch granules; apparently wheat, maize and rice.
"Ready to eat; thoroughly cooked, predigested."	11·81	8·52	0·88	3·08	12·84	2·00	1·76	59·11	30206	Starch granules much broken; apparently wheat or barley.

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RESULTS OF AN INSPECTION OF A COLLECTION OF

DISTRICT OF LONDON—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Cents.	Name and Address of Manufacturer or Furnisher.	From Inspector's Report.
1906.							
Nov 6	Force	30207	Charles Andrew, Seaforth, Ont.	1 pkgs..	15	Force Food Co., Buffalo, N.Y.	Labelled "The natural food for creating power, repairing waste, maintaining energy."

DISTRICT OF MANITOBA—

Nov. 8	Malta Vita...	25911	Coates & Co., Brandon, Man.	1 lb ...	15	Malta Vita Pure Food Co., Battle Creek, Mich.	In bulk....
" 12	Quaker Oats..	25915	A. Hendry, Winnipeg, Man.	2 " ..	15	The American Cereal Co., Peterboro', Ont.	" .... ..
" 12	Puffed Rice...	25916	Sutherland Bros " .	1 " ..	15	The American Cereal Co., Chicago.	" ... ..
" 12	Canada Flakes	25917	Gillies & Frances " .	1 " ..	10	Peterboro' Cereal Co., Peterboro', Ont.	" .. ....
" 16	Petit John's Breakfast Food.	25918	Kennedy & Seeney, Winnipeg, Man.	1 " ..	20	The American Cereal Co., Chicago.	" ....
" 16	Grape Nut . .	25919	D. A. Ritchie " .	1 " ..	15	Postum Cereal Co., Battle Creek, Mich.	" .. ..
" 16	Malt Food....	25920	J. A. McKerchar, Winnipeg, Man.	1 " ..	15	Malted Cereal Co., Montreal.	" .....
" 9	Puffed Rice...	25914	C. S. B. Burley, Portage la Prairie.	1 " ..	15	The American Cereal Co., Chicago.	" .....

DISTRICT OF BRITISH COLUMBIA

Nov. 14	Force	32009	E. H. McMillan, Granville St., Vancouver, B.C.	3 pkgs..	45	The Force Food Co., Buffalo, N.Y., U.S.A.	It is stated that in "Force, the whole of the wheat is scientifically combined with barley malt."

SESSIONAL PAPER No. 14

SAMPLES OF BREAKFAST FOODS —*Concluded.*

T. KIDD, INSPECTOR—*Continued.*

Additional Observations and Quotations from Label.	Results of Analysis.								No. of Sample.	Remarks by Analyst. (Microscopical Examination).
	Total Proteids N × 6·25.	Moisture.	Petrolic Ether Extract (Fat).	Alcohol Extract (Sugars &c.)	Water Extract. (Dextrines).	Crude Fibre.	Total Ash.	Starch approximately by difference.		
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.		
"Serve cold; no cooking required; toast before serving. no sugar required."	10·94	8·44	0·96	0·84	11·64	2·48	1·52	63·18	30207	Starch granules much broken; apparently wheat.

W. M. CONKLIN, INSPECTOR.

.. ..	10·50	7·44	0·00	1·80	14·40	1·65	1·62	62·59	25911	Starch granules very much broken.
.. ..	14·00	7·65	5·20	1·80	5·16	1·95	1·28	62·96	25915	Oat starch.
.. . .	8·31	8·24	0·00	0·00	20·80	0·75	1·00	60·90	25916	Starch granules all broken.
....	11·37	7·04	0·32	1·92	13·44	1·70	2·00	62·41	25917	Starch granules very much broken.
. ...	9·62	7·68	0·48	2·40	7·72	1·25	1·42	59·43	25918	Wheat or barley starch; probably wheat.
... .	11·73	5·76	0·40	16·48	27·76	0·85	1·26	35·76	25919	Starch granules much broken.
. ...	11·73	7·24	0·00	8·08	8·72	0·50	1·64	62·09	25920	Wheat or barley; probably a mixture of both.
.. ..	8·75	8·02	0·12	0·00	16·04	1·45	0·84	64·78	25914	Starch granules much broken; a few granules characteristic of rice.

—E. B. PARKINSON, INSPECTOR.

"Force is food with the indigestible parts left out." "The comparative digestibility with other foods is Force 15 to 30 mins., oats, rolled 30 to 60 mins., wheat, rolled 1 to 3 hrs., hominy (gran.) 1 to 3 hrs."	11·37	8·48	0·48	3·72	11·28	1·60	2·08	60·99	32009	Starch granules much broken.

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RESULTS OF AN INSPECTION OF A COLLECTION

DISTRICT OF BRITISH COLUMBIA

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Cents.	Name and Addres of Manufacturer or Furnisher.	From Inspector's Report.
1906.							
" 9	Malta Ceres...	28188	W. H. Walsh, Seymour St., Vancouver, B.C.	3 pkgs..	15	The Twin City Nut Food Co., Minneapolis, St. Paul, Minnesota, U.S.A.	This is said to be "a scientific combination of thoroughly malted and cooked cereals."
" 9	Orange Meat..	28189	Webster Bros., Granville St., Vancouver, B.C.	3 " ..	40	The Frontenac Cereal Co., Ltd., Kingston, Ont.	It is stated that "Orange Meat is scientifically prepared, thoroughly cooked and absolutely digestible."
" 10	Grape Nuts...	28190	S. F. McCready, Granville St., Vancouver, B.C.	3 " ..	45	The Postum Cereal Co., Ltd., Battle Creek, Mich., U.S.	This is said to be fully cooked, pre-digested dextrose and grape sugar, made by special treatment of entire wheat and barley."
" 10	Breakfast Food	28191	John G. Kirkwood, Granville St., Vancouver, B.C.	3 " ..	15	The Lake of the Woods Milling Co., Kewatin	.....
" 10	Farina	28193	Hudson's Bay Co., retail, Granville St., Vancouver, B.C.	3 " ..	40	Sperry Flour Co., 114, 116 Sacramento St., San Francisco.	Stated to be particularly adapted for children."
" 12	Malted Cereal.	28195	Kelly, Douglas Co., Ltd., Water St., Vancouver, B.C.	3 " ..	45	Portland Sanitarium Food Co., Portland, Oregon.	It is stated that this food "is subjected to a high degree of heat, and contains elements which produce a natural predigested food."
" 12	Breakfast Food	28196	The W. H. Malkin Co., Ltd., Water St. Vancouver, B.C.	3 " .	55	Acme Mills Co., Portland, Oregon, for Purina Mills, St. Louis, Mo.	"Made from selected wheat, rich in gluten."

SESSIONAL PAPER No. 14

OF SAMPLES OF BREAKFAST FOODS—*Continued.*

—E. B. PARKINSON, INSPECTOR—*Continued.*

Additional Observations and Quotations from Label.	Results of Analysis.								No. of Sample.	Remarks by Analyst. (Microscopical Examinations.)
	Total Proteids N × 6·25.	Moisture.	Petrolic Ether Extract (Fat).	Alcohol Extract. (Sugars, &c.)	Water Extract (Dextrines).	Crude Fibre.	Total Ash.	Starch approximately by difference.		
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.		
Labelled "Do not cook."	14·00	7·44	0·24	6·48	18·72	0·80	1·30	51·02	28188	Starch granules much broken.
"Requires no cooking all ready to eat."	11·57	8·00	0·28	7·04	12·16	1·50	1·80	57·85	28189	Starch granules much broken; apparently wheat starch.
"The system will absorb a greater amount of nourishment from 1 lb. grape nuts than from 10 lbs meat, wheat, oats or bread."	11·67	5·00	0·00	15·68	27·84	1·00	1·42	37·39	28190	Starch granules much broken.
.....	11·06	9·84	0·00	0·16	5·56	0·60	1·08	71·70	28191	Wheat starch.
Directions given for cooking.	8·31	9·00	0·00	0·00	6·40	1·15	0·68	74·46	28193	Wheat starch.
It is so perfectly prepared that it needs no further cooking and can be eaten dry.	9·17	6·72	0·64	10·40	20·00	0·35	1·00	51·72	28195	Wheat or barley.
Directions given for cooking.	13·25	9·44	0·00	2·40	6·00	1·25	1·28	66·38	28196	Wheat starch.

APPENDIX I.

BULLETIN No. 133—BUTTER, 1907.

OTTAWA, April 16, 1907.

W. J. GERALD, Esq.,

Deputy Minister of Inland Revenue.

SIR,—On the 30th January last I had the honour of reporting to you the results of analysing 101 samples of butter collected in 1906 (Bulletin No. 131) and of pointing out that two of these consisted almost exclusively of foreign fat and that apparently attempts were being made either to manufacture or to import into Canada oleomargarine, in contravention of the provisions of the Butter Act, 1903. On account of the small number of these adulterated samples compared with those found genuine (about 1 in 50) and the uselessness of expending analytical work upon the unadulterated samples the suggestion was made by Mr. A. McGill, Assistant Analyst to the Chief Analyst, that a larger number of butter samples should be collected, but that the fats from these should first be tested as to their refractive index, and only those butters subjected to further examination which gave unsatisfactory results in this particular. This plan appeared to me to have great advantages and after it had obtained your approval, orders were issued to collect samples in all the food inspection districts of the Dominion, the total number asked for being 1,000. As the examination progressed however it was found that the sophisticated samples came exclusively from the Province of Quebec, and therefore the orders for some of the Western inspection districts were cancelled before the full number first required had been obtained. The number collected and subjected to examination under the Refractometer, and the results of this examination are shown in the following statement :—

Name of District.	Genuine.	Doubtful.	Containing Foreign fat.	Total Number collected.
Nova Scotia	50	0	0	50
Prince Edward Island	50	0	0	50
New Brunswick	50	0	0	50
Quebec	106	0	6	112
St. Hyacinthe	150	0	0	150
Montreal	198	0	2	200
Ottawa	49	1	0	50
Kingston	46	4	0	50
Toronto	100	0	0	100
London	50	0	0	50
Manitoba	7	0	0	7
British Columbia	12	0	0	12
	868	5	8	881

The samples thus found to be adulterated with foreign fat from mere testing by the Butyro-refractometer were the following :—

Date of Collection.	No. of Sample.	Name and Address of Vendor.	Name of Furnisher as given by Vendor.	Reading of Butyro-refractometer at 25° C. by A. McGill and Miss E. Davidson.
1907.				
Jan. 15	26098	Elz. Couture, 124 Caron St., Quebec.	Emond & Coté, Quebec.....	58·3°-58·8°.
" 17	26105	L. Letourneau, 33 Smith St., Quebec.	Oct. Jacques & Cie, Quebec.	57·5°-57·6°.
" 25	26151	F. Delisle, 131 Hermine St., Quebec.	Emond & Coté, Quebec.....	57·5°.
" 25	26152	Dame N. L. Pouliot, 96 Kirouack St., Quebec.	" "	57·8°.
" 29	26157	F. E. Jobin, 1168 St. Valier St., Quebec.	Not known.....	57·0°.
" 30	26166	F. Hebert, 191 St. Germain St., Quebec.	Emond & Coté, Quebec.....	57·5°.
Feb. 9	31732	H. Delorme, 253 Gain St., Montreal.	Not known.....	57·8°-58·0°.
" 15	31866	G. Bertrand, 1742 St. Catherine East, Montreal.	W. Champagne, Montreal...	57·3°.

These eight samples were then submitted to the District analyst, Dr. J. T. Donald, Montreal, for further examination along with two of the doubtful ones, namely No. 26176 the refractive index of which was 54° and No. 31721 whose index of 48°-49° had been found exceptionally low. The readings in the case of the genuine samples at 25°C. were mostly about 52°, ranging from 49·5° to 53·3°. The analyses by Dr. Donald resulted as follows :—

No. of Sample.	Vendor.	Moisture.	Fat.	Salt.	Curd.	Reichert Meissl Value.	Specific gravity of fat at 100 C.	Opinion.
		p. c.	p. c.	p. c.	p. c.	No.		
26098	E. Couture.....	6·06	90·03	1·92	1·41	1·6	903·8	Adulterated, containing little if any butter fat.
26105	L. Letourneau...	8·32	85·81	3·44	1·60	1·4	895·6	" "
26151	F. Delisle.....	5·67	87·19	4·75	1·55	1·3	899·2	" "
26152	Dame Pouliot...	7·11	88·94	2·61	0·53	1·5	898·4	" "
26157	F. E. Jobin.....	5·55	89·38	2·64	1·64	1·2	914·0	" "
26166	F. Hebert.....	5·83	89·00	3·08	1·19	1·2	909·0	" "
26176	H. Lapointe ...	14·19	73·09	10·77	0·99	25·5	904·6	Genuine but High in salt.
31731	L. Allaire.....	10·55	86·15	2·21	1·08	27·6	907·7	Genuine.
31732	H. Delorme.....	5·80	90·05	2·22	1·39	2·0	900·0	Adulterated, containing little if any butter fat.
31866	G. Bertrand...	4·90	92·89	1·96	0·24	2·5	896·9	" "

I have the honour to be, sir,

Your obedient servant,

THOMAS MACFARLANE,
Chief Analyst.

APPENDIX J.

BULLETIN No. 134—STANDARD FERTILIZERS, 1907.

Ottawa, May 10, 1907.

W. J. Gerald, Esq.,

Deputy Minister of Inland Revenue.

Sir,—I have the honour to report that up to this date 176 samples of standard fertilizers have been received by this Branch from their manufacturers who propose to offer them for sale in the markets of the Dominion during the year 1907. The Fertilizers Act, 1890, requires that such samples shall be transmitted to the Minister of Inland Revenue 'before the end of the month of January in each year,' but, to suit the convenience of the manufacturers, this time has been gradually extended until samples are accepted which come as late as the end of April. *The number of samples above mentioned exceeds that of last year, and is greatly above the average as will be seen from the following statement :—

In 1897	there were analysed	107	standard samples.
1898	"	124	"
1899	"	154	"
1900	"	107	"
1901	"	102	"
1902	"	106	"
1903	"	128	"
1904	"	111	"
1905	"	120	"
1906	"	153	"
1907	"	176	"

The tabulated description appended to this report contains the designation of the various brands of fertilizers offered for sale in 1907, the names of the manufacturers or importers, the claims made as regards their fertilizing constituents, and the actual percentages of the latter found in the standard samples on analysis in this laboratory. The 'guaranteed contents' must be understood to indicate only the lowest percentages claimed on the manufacturers label or given in correspondence with the Department.

As required by the Fertilizers Act, the tabulated statement contains also a column in which the relative value per 2,000 lbs. of each fertilizer is given, calculated from their contents in fertilizing ingredients. the value of these being taken as follows :—

	Cents per lb.
Nitrogen, in salts of ammonia, or nitrates, as well as in compound fertilizers	17
Organic nitrogen, in ground bone, fish, blood or tankage	16
Phosphoric acid—	
Soluble in water	6
Soluble in 1 per cent citric acid solution	5½
Insoluble in Thomas phosphate powder. bone and fertilizers generally	1½
Potash, in compound fertilizers	5

* Indeed ten samples from British Columbia did not arrive till much later.

These rates are essentially the same as those of 1905 which were then modified in order to bring them into closer agreement with the market prices of the materials used in the manufacture of fertilizers. The value of each brand is calculated on the results of the analysis of the standard samples, but it has been omitted in the case of the guaranteed contents of those samples regarding which the analysis or information supplied has not been sufficiently explicit. It has also been considered reasonable to expunge from the foregoing list of values the rate formerly given for insoluble phosphoric acid in Thomas phosphate powder or basic slag, because its agricultural effect cannot be considered as higher than that of the insoluble phosphoric acid in bone.

From studying the present tabulated statement it would appear that the number of fertilizers of low price is on the increase, and that it is necessary to call the attention of purchasers to the consideration that the fertilizing constituents in these are likely to cost more than in fertilizers of a higher grade. The expense of mixing a ton of fertilizer containing say 300 lbs. of plant food is as great as in the case of one twice as rich in fertilizing constituents. The cost of package, carting and freight is the same per ton. It is evident, therefore, that the manufacturer is in a position to sell the plant food of high grade fertilizers at cheaper rates per pound than in brands of low grade. In other words, the higher the grade the cheaper can the fertilizing constituents be bought. Farmers should therefore consider the advantage of purchasing only high grade fertilizers. He should also be advised to avoid those brands which have less than two per cent of ammonia or potash. These percentages are too low in cases where such ingredients are required, and where they are not needed is useless to apply them. It is a waste of money to buy nitrogen or potash in fertilizers containing less than one per cent of these constituents.

I have the honour to be, sir,

Your obedient servant,

THOMAS MACFARLANE,

Chief Analyst.

NOTE.

LABORATORY OF THE INLAND REVENUE DEPARTMENT,
317 QUEEN STREET,
OTTAWA, June 19, 1907.

Owing to the lamented death of Mr. Macfarlane, the final revision of this Bulletin has been made by me.

It may be necessary to explain that in calculating the relative values, I have taken the minimum percentages of fertilising materials claimed by the manufacturers, as the basis of calculation. In cases where no differentiation of the phosphoric acid is given, it is impossible, of course, to calculate the value with any reasonable degree of accuracy. Where available phosphoric is not distinguished as water soluble, the whole available acid has been given value as 'reverted,' i.e. 5½ cents per lb.

A. McGILL,

Acting Chief Analyst.

TABULATED DESCRIPTION OF 173 STANDARD SAMPLES

Date when Advised.	Number of Sample.	Designation.	Name of Manufacturer.	By whom sent.	From what materials Produced.
1906.					
May 23	1876	Bone Meal	The Chas. H. Lilly Co., Seattle.	Wm. Rennie Co., Ltd., Vancouver Branch.	
" 22	1877	Lawn Fertilizer No. 5	Portland Seed Co., Portland, Oregon.	Charles Nelson, Vancouver, B.C.	
" 21	1878	Read's Practical Potato Special.	American Agricultural Chemical Co., Boston Sales Dept., 92 State St.	Manufacturers	Bone black, animal bone, phosphatic guanos, dried fish, meat or blood, nitrate of soda, or sulphate of ammonia, sulphate or muriate of potash, sulphuric acid.
" 21	1879	Read's Vegetable and Vine.	" "	"	" "
" 21	1880	Read's Potato Manure	" "	"	" "
" 21	1881	Read's High Grade Farmer's Friend.	" "	"	" "
July 3	1882	Bone Meal	The Chas. H. Lilly Co., Seattle.	Imported by M. J. Henry, Vancouver, B.C.	
" 6	1883	Fine Bone Fertilizer.	P. Burns & Co., Vancouver, B.C.	Manufacturers	
Sept. 1	1884	Fish Guano	Fraser River Oil and Guano Co.	J. F. E. Kinnell	Fraser river salmon refuse.
Oct. 22	1885	Campbell's Fertilizer No. 1.	The Executors of Robt. Campbell, Manchester, Eng.	Blackie Bros., 44 Allen St., Halifax, N.S.	
" 22	1886	Campbell's Fertilizer No. 2.	" "	" "	
1907.					
Jan. 9	1887	International Grain and Grass Fertilizer	International Seed Co., Rochester, N.Y.	A. E. Howe, Sec'y.	
" 9	1888	International Potato and Truck Manure.	" "	" "	
" 11	1889	Fertilizer "A"	Davies Packing Co., Ltd, Harriston, Ont.	Manufacturers	Blood, bone and dried albuminous matter.
" 12	1890	Toronto "A"	Wm. Davies Co., Ltd., Toronto.	" "	Dried blood, bones and tankage.
" 12	1891	Toronto "B"	" "	" "	Concentrated extract obtained from the evaporation of tank liquors.
" 15	1892	Essex "A1" Superphosphate.	Russia Cement Company, Manufacturers of Essex High Grade Fertilizers, Gloucester, Mass.	S. C. Shaffner, Granville, Ferry, N.S.	High grade muriate of potash, and sulphate of potash, nitrate of soda, dry ground blood, dry ground fish, fine bone meal and acid phosphate.
" 15	1893	Essex XXX Fish and Potash.	" "	"	" "
" 15	1894	Essex Market Garden and Potato Manure	" "	" "	" "
" 15	1895	Essex Orchard Fertilizer.	" "	" "	" "

SESSIONAL PAPER No. 14

OF AGRICULTURAL FERTILIZERS, REGISTERED FOR 1907.

	Results of Analysis.												
	Nitrogen.		Phosphoric Acid.							Relative Value per ton of 2,000 lbs.	Number of Sample.	Name of Analyst.	
	Total, including that of nitric acid and ammonia if present.	Total calculated as ammonia.	Soluble in water.	Citric soluble.	Insoluble.	Total.	Total available.	Potash.	Moisture.				
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	$ cts.			
Guaranteed contents.	3·83	4·65	1·20	9·97	4·15	15·32	11·17	0·05	.....	25 93			
Standard sample..	3·63	4·40	....	20.47	6·55	27·02	20·47	0·00	6·86	36 11	1876	Miss E. Davidson	
Guaranteed contents.	2·89	3·51	....	.....	4 72	12·12	7·40	6·37	....	25 75			
Standard sample..	4·02	4·88	1·12	15·36	5·43	21·91	16·48	0·19	5·36	33 73	1877	"	"
Guaranteed contents.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....			
Standard sample..	1·44	1·75	6·24	2·07	2·56	10·87	8·31	8·24	9·64	23 68	1878	"	"
Guaranteed contents.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....			
Standard sample..	2·41	2·92	8·63	2·24	2·56	13·43	10·87	7·68	12·22	29 46	1879	"	"
Guaranteed contents.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....			
Standard sample..	2·38	2·89	6·40	2·88	2·39	11·67	9·28	11·62	9·22	31 28	1880	"	"
Guaranteed contents.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....			
Standard sample..	3·28	3·98	4·80	3·04	3·51	11·35	7·84	10·61	10·64	31 91	1881	"	"
Guaranteed contents.	3·83	4·65	1·20	10·97	4·15	15·32	11·17	0·05	.....	27 82			
Standard sample..	2·16	2·62	0·80	6·08	5·11	11·99	6·88	1·02	3·90	17 11	1882	"	"
Guaranteed contents.	3·05	3·70	....	.....	.....	29·00	.....	..	3·00	....			
Standard sample..	3·71	4·50	0·96	10·72	10·39	22·07	11·68	0·48	7·00	28 41	1883	"	"
Guaranteed contents.	8·34	10·13	..	.....	.....	6·55	.....	.....	6·32	....			
Standard sample	7·71	9·36	0·80	0·97	5·75	7·52	1·77	0·96	8·40	29 37	1884	"	"
Guaranteed contents.	4·73	5·75	3·44	...	3·44	.....	.....	3·10	.....	23 39			
Standard sample..	4·03	4·91	3 67	2·57	2·24	8·48	6·24	3·13	17·70	23 93	1885	Miss S. E. Wright	
Guaranteed contents.	3·53	4·17	5·95	...	.....	.....	.....	4·32	.....	23 46			
Standard sample..	3·82	4 64	6·72	1·60	1·60	9·92	8·32	5·60	12·90	28 89	1886	"	"
Guaranteed contents.	1·25	1·50	8·00	2·00	1·00	11·00	10·00	2·50	.....	18 85			
Standard sample.	1·54	1·87	7·22	2·62	5 31	15·15	9·84	4·09	14 20	22 46	1887	A. Lemoine.	
Guaranteed contents.	1·25	1·50	6·00	2·00	1·00	9·00	8·00	7·00	...	20 95			
Standard sample..	1·68	2·04	6·71	1·21	4·03	11·95	7·92	9·17	13·10	25 47	1888	"	
Guaranteed contents.	6·46	7·85	.....	.....	.....	17·57	.....	.....	2·90				
Standard sample..	6·44	7 82	2·75	14 40	3·19	20·34	17·15	.....	3·90	40 71	1889	"	
Guaranteed contents.	8·00	6.59	.....	.....	....	17.27	.....	.....	8·85	....			
Standard sample..	6 44	7·82	2·75	14·53	3·19	20·47	17·28	1·58	8·30	42 42	1890	"	
Guaranteed contents.	13·17	16·00	.	.....	...	....	.....	.....	7·20	42 14			
Standard sample..	13·04	15·84	.	1·15	1·28	2·43	1·15	3·12	7·60	46 49	1891	"	
Guaranteed contents.	1·00	1·20	3·00	4·00	2·00	9·00	.....	2·00	.....	14 00			
Standard sample..	1·40	1·70	3·19	4·47	7 50	15·16	7·66	2·58	6·20	18 34	1892	"	
Guaranteed contents.	2·06	2·50	....	.....	.....	12·00	9·00	2·25	.....	20 05			
Standard sample..	2 14	2 60	5·75	5·60	3·04	14 39	11·35	2·95	8 87	24 20	1893	Miss S. E. Wright	
Guaranteed contents.	2·00	2·40	4·00	4·00	2·00	10·00	.....	5·00	.....	21 60			
Standard sample .	2·18	2·65	5·28	4·48	3·83	13·59	9·76	6·00	9·90	25 83	1894	"	"
Guaranteed contents.	1·64	2·00	4·00	3·00	2·00	9·00	.....	8·50	.....	22 78			
Standard sample..	1·86	2·26	4·15	3·21	4·79	12·15	7·36	9·65	5·12	25 92	1895	"	"

TABULATED DESCRIPTION OF 173 STANDARD SAMPLES

Date when Advised.	Number of Sample.	Designation.	Name of Manufacturer.	By whom sent.	From what materials produced.
1907.					
Jan	15 1896	Essex Complete Manure for Corn, Grain and Grass.	Russia Cement Co., Manufacturers of Essex High Grade Fertilizers, Gloucester Mass.	S. C. Shaffner, Granville, Ferry, N.S.	High grade muriate of potash and sulphate of potash, nitrate of soda, dry ground blood, dry ground fish, fine bone meal and acid phosphate.
"	15 1897	Essex Complete Manure for Potato, Roots or Vegetable	" " ..	" " ..	" " ..
"	15 1898	Essex Fish Bone Meal.	" "	" "	" " "
"	21 1899	Fertilizer "E".....	The Harris Abattoir Co., Ltd., Toronto, Canada.	Manufacturers	Dried blood, bones and tankage.
"	4 1900	Great Eastern Northern Corn Special.	The American Agricultural Chemical Co., Rutland, Vermont, U. S. A. (branch.)	"	....
"	4 1901	Great Eastern Potato Manure.	" "	"	....
"	4 1902	Great Eastern General.	" "	"	....
"	4 1903	Great Eastern Grass and Oats.	" "	"	....
"	4 1904	Great Eastern High Grade Potato Manure.	" "	"	....
"	4 1905	Great Eastern Potato Special.	" "	"	....
"	4 1906	A. A. C. Co. Aroostook Complete Manure.	" "	"	....
"	4 1907	A. A. C. Co. Aroostook High Grade Superphosphate.	" "	"	....
"	12 1908	Tankage Fertilizer..	The Laing Packing and Provision Co., Ltd., Montreal.	"	....
	12 1909	Dried Blood..	" "	"	....
	31 1910	Corn Fertilizer.....	Chevalier and Roy, Youville, Quebec.	"	Pure bones, meat, blood, and muriate of potash.
	31 1911	Potato Fertilizer....	" "	"	Pure bones, meat, blood, and kainit.
	31 1912	Fertilizer "A".	Davies, Ltd., Montreal, Que.	"	Blood, bone and dry albuminnous matter.
	21 1913	Bowker's Vermont Phosphate.	Bowker Fertilizer Co., Boston, Mass.	"	....
	21 1914	Bowker's Hill and Drill Phosphate.	" "	"	....
	21 1915	Bowker's Potato and Vegetable Phosphate.	" "	"	....
	21 1916	Bowker's Corn Phosphate.	" "	"	....

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OF AGRICULTURAL FERTILIZERS, REGISTERED FOR 1907—*Continued.*

	Results of Analysis.													
	Nitrogen.		Phosphoric acid.											
	Total, including that of nitric acid and ammonia when present.	Total calculated as ammonia.	Soluble in water.	Citric Soluble.	Insoluble.	Total.	Total available.	Potash.	Moisture.	Relative Value per ton of 2,000 lbs.	Number of Sample.	Name of Analyst.		
	p. c.	p. c.	p.c	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	$ cts.				
Guaranteed contents.	3·29	4·00	....	....	....	10·00	7·00	9·50	....	29 29				
Standard sample..	2·84	3 45	7·03	3 52	2·56	13·11	10·55	9·98	11·52	32 72	1896	Miss S. E. Wright		
Guaranteed contents	3·71	4·50	....	....	....	9·00	7·00	8·50	....	29 41	....			
Standard sample..	3·26	3·84	5·27	2·57	4·31	12·15	7·84	10 52	4·12	32 04	1897	" "		
Guaranteed contents	8·24	10·00	....	....	....	11·00	....	....	....	....	....	" "		
Standard sample..	7·42	9·01	....	10·24	3·51	13·75	10·24	1·12	6·90	38 66	1898			
Guaranteed contents	7·89	9·58	....	....	....	9·12	....	....	10·85	....	....			
Standard sample..	8 62	10·47	0·80	5·27	3·39	9·46	6·07	*	6·10	35 36	1899	A. Lemoine.		
Guaranteed contents	2·06	2·50	5·00	3·00	2·00	10·00	8·00	1·50	....	18 40	....			
Standard sample..	2 21	2·68	6·71	2·88	2·75	12·34	9·49	1·89	15·75	21 44	1900	"		
Guaranteed contents	2 06	2·50	5·00	3·00	2·00	10·00	8·00	3·00	....	19 90	....			
Standard sample..	2·24	2·72	5·95	3·32	2·75	12·02	9·27	3·22	15·10	22 45	1901	"		
Guaranteed contents	0·82	1·00	5·00	3·00	2·00	10·00	8·00	4·00	....	16 69	..			
Standard sample..	1·12	1·36	6·90	2·69	2·43	12·02	9·59	3·84	12·85	19 62	1902	"		
Guaranteed contents	....	....	....	6·00	5·00	1·00	12·00	11·00	2·00	....	15 00	....		
Standard sample..	*	*	9·59	3·33	1·79	14·71	12·92	1·89	15·05	17 60	1903	"		
Guaranteed contents	3·30	4·00	4·00	2·00	1·00	7·00	6·00	10·00	....	28 52	....			
Standard sample..	3·36	4 68	7·54	1·73	1·47	10·74	9·27	10·10	11·20	32 91	1904	"		
Guaranteed contents	3·30	4·00	6 00	2·00	1·00	9·00	8·00	7·00	....	27 92	....			
Standard sample..	3·50	4·25	6·84	2·43	2·75	12·02	9·27	7·01	11·50	30 61	1905	"		
Guaranteed contents	2·40	3·00	5·00	1·00	1·00	7·00	6·00	10·00	....	25 56	....			
Standard sample..	2·66	3·23	4·67	3·77	1·79	10·23	8·44	9·07	13·65	28 40	1906	"		
Guaranteed contents	....	....	11·00	....	....	....	14·00	....	....	16 50	....			
Standard sample..	*	*	12·02	0·78	3·19	15·99	12·80	*	12·50	16 24	1907	"		
Guaranteed contents	7·21	8·76	....	....	....	11 71	....	....	9·81	....	....			
Standard sample..	6·58	7·99	*	9·91	2·75	12·66	9·91	*	9·65	32 78	1908	"		
Guaranteed contents	13·47	16 36	....	....	....	....	....	....	12·31	....	....			
Standard sample..	13·58	16·49	1·28	0 31	*	1·59	1·59	*	10·70	45 34	1909	"		
Guaranteed contents	8·89	10·79	....	....	....	12·68	....	1·60	7·85	....	....			
Standard sample..	4·24	5·27	0·64	11·64	5·63	17·91	12·28	1·68	7·55	31 36	1910	"		
Guaranteed contents	5·11	6·20	....	....	....	17·22	....	0·84	5 02	....	....			
Standard sample..	5·64	6 80	3·04	6·88	7 19	17·11	11·92	1·64	7·07	34 20	1911	Miss S. E. Wright		
Guaranteed contents	8·29	10·07	....	....	....	11 25	....	....	2·95	....	....			
Standard sample..	7·90	9·61	2·24	4·48	4·79	11·51	6·72	1·51	5·01	35 85	1912	"		
Guaranteed contents	2·47	3·00	....	....	....	10·00	8·00	4·00	....	....	....			
Standard sample..	2·69	3·26	8·47	1·60	2·40	12·47	10 07	4·52	12·85	26 31	1913	"		
Guaranteed contents	2 47	3·00	....	....	....	10·00	9 00	2·00	....	....	....			
Standard sample..	2·44	2 96	9·11	0·80	1·92	11·83	9 91	2·43	11·97	23 12	1914	"		
Guaranteed contents	1·65	2 00	....	....	....	9·00	8·00	2 00	....	16 71	....			
Standard sample..	1·68	2·04	8 64	1·62	2·08	12·34	10·26	2·07	9·25	20 55	1915	"		
Guaranteed contents	1·65	2·00	....	....	....	9·00	8·00	2·00	....	....	....			
Standard sample..	1·86	2·26	8·47	2·08	1·60	12 15	10·55	3·09	9·52	22 34	1916	"		

*Trace.

TABULATED DESCRIPTION OF 173 STANDARD SAMPLES OF

Date when Advised.	Number of Sample.	Designation.	Name of Manufacturer.	By whom sent.	From what materials Produced.
1907.					
Jan. 21	1917	Bowker's Square Brand Bone and Potash.	Bowker Fertilizer Co., Boston, Mass.	Manufacturers	
" 21	1918	Bowker's Bristol Fish and Potash.	" "	"	
" 21	1919	Bowker's Farm and Garden.	" "	"	
" 21	1920	Bowker's Sure Crop Phosphate.	" "	"	
" 21	1921	Bowker's Potash Bone Phosphate.	" "	"	
" 21	1922	Bowker's 6 p.c. Potato Fertilizer.	" "	"	
" 21	1923	Bowker's 10 p. c. Manure.	" "	"	
" 21	1924	Bowker's Superphosphate and Potash.	" "	"	
" 21	1925	Bowker's Superphosphate.	" "	"	
" 21	1926	Fresh Ground Bone.	" "	"	
" 21	1927	Nitrate of Soda	" "	"	
" 21	1928	Muriate of Potash	" "	"	
" 21	1929	Dissolved Bone Black	" "	"	
" 21	1930	Stockbridge Special Complete Manure.	" "	"	
Feb. 1	1931	Freeman's Sure Growth.	W. A. Freeman Co., Ltd., Hamilton, Ont	"	Phosphate, bone, blood, tankage, sulphuric acid, muriate of potash, sulphate of potash sulphate of ammonia, nitrate of soda.
" 1	1932	Freeman's Bone and Potash.	" "	"	
" 1	1933	Freeman's Celery and Early Vegetable Manure.	" "	"	
" 1	1934	Freeman's Phosphate Powder.	" "	"	
" 1	1935	Freeman's Potato Manure.	" "	"	
" 1	1936	Freeman's Tankage Manure.	" "	"	
" 1	1937	Freeman's Special Tobacco Manure.	" "	"	
" 1	1938	Freeman's Pure Bone Meal.	" "	"	
Jan. 30	1939	Crocker's New York Special Phosphate.	American Agricultural Chemical Co., Buffalo Sales Dept., Buffalo, N.Y.	"	Animal matter (blood, bone and tankage), mineral phosphates, potash; all treated with sulphuric acid.
" 30	1940	Crocker's Wheat and Corn Fertilizer.	" "	"	

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AGRICULTURAL FERTILIZERS, REGISTERED FOR 1907—*Continued.*

—	Results of Analysis.										Relative value per ton of 2,000 lbs.	Number of sample.	Name of Analyst.
	Nitrogen.		Phosphoric Acid.										
	Total, including that of nitric acid and ammonia when present.	Total, calculated as ammonia.	Soluble in water.	Citric soluble.	Insoluble.	Total.	Total available	Potash.	Moisture.			
	p. c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.		$ cts.		
Guaranteed contents	1·65	2·00	....	....	....	7·00	6·00	2·00	....		14 51	....	
Standard sample..	1·68	1·92	5·95	3·13	4·03	13·11	9·08	2·20	11·85		19 70	1917	A. Lemoine.
Guaranteed contents	1·65	2·00	....	....	....	7·00	6·00	2·00	....		14 51	....	
Standard sample..	1·82	2·21	6·59	2·56	2·23	11·38	9·15	2·24	13·95		19 82	1918	"
Guaranteed contents	1·65	2·00	....	....	....	9·00	8·00	2·00	....		16 71	....	
Standard sample..	1·54	1·97	7·35	0·77	3·71	11·83	8·12	2·06	13·85		18 08	1919	"
Guaranteed contents	0·82	1·00	....	....	....	9·00	8·00	2·00	....		13 92	....	
Standard sample..	1·12	1·36	6·71	2·37	1·47	10·55	9·08	1·89	14·00		16 80	1920	A. Lemoine.
Guaranteed contents	0·82	1·00	....	....	....	7·00	6·00	2·00	....		11 69	....	
Standard sample..	1·12	1·36	7·22	2·18	2·75	12·15	9·40	1·85	13·45		17 53	1921	"
Guaranteed contents	0·82	1·00	....	....	....	7·00	6·00	6·00	....		15 69	....	
Standard sample..	0·98	1·19	4·47	3·85	2·55	10·87	8·32	4·86	12·95		18 54	1922	"
Guaranteed contents	0·82	1·00	....	....	....	6·00	5·00	10·00	....		18 59	....	
Standard sample..	1·19	1·44	3·50	3·92	2·00	9·42	7·42	8·42	12·20		21 58	1923	A. Valin.
Guaranteed contents	....	....	....	....	....	11·00	10·00	1·00	....		12 30	....	
Standard sample .	0·22	0·27	10·22	1·05	2·45	13·72	11·27	1·12	12·95		16 01	1924	"
Guaranteed contents	....	....	....	....	....	14·00	12·00	....	....		13 80	....	
Standard sample..	0·23	0·28	10·77	2·93	2·50	16·20	13·70	....	17·10		17 67	1925	"
Guaranteed contents	2·47	3·00	....	....	....	18·00	5·00	....	....		17 80	....	
Standard sample..	2·95	3·57	....	15·28	7·97	23·25	15·28	....	5·70		28 64	1926	"
Guaranteed contents	14·82	18·00	....	....	....	....	....	....	....		50 39	....	
Standard sample..	14·28	17.34	....	....	....	....	....	....	2·00		48 55	1927	"
Guaranteed contents	....	....	....	....	....	....	....	50·00	....		50 60	....	
Standard sample..	....	....	....	....	....	....	....	49·90	1·25		49 90	1928	"
Guaranteed contents	....	....	....	....	....	16·00	15·00	....	....		16 80	....	
Standard sample..	0·14	0·17	9·17	3·91	1·82	14·90	13·08	....	14·95		16 33	1929	"
Guaranteed contents	3·30	4·00	....	....	....	7·00	6·00	10·00	....		28 12	....	
Standard sample.	2·94	3·67	5·62	1·68	0·80	8·10	7·30	10·58	12·90		29 41	1930	"
Guaranteed contents	2·88	3·50	....	....	....	8·00	....	3·00	....		....	....	
Standard sample..	3·58	4·35	4·43	4·68	1·60	10·71	9·11	6·12	12·22		29 24	1931	Miss S. E. Wrigh
Guaranteed contents	1·65	2·00	....	....	....	9·00	....	6·00	....		....	....	
Standard sample..	2·83	3·43	4·95	3·36	1·28	9·59	8·31	8·79	9·57		28 43	1932	"
Guaranteed contents	4·12	5·00	....	....	....	9·00	....	5·00	....		....	....	
Standard sample..	5·18	6·29	3·35	5·12	1·60	10·07	8·47	8·81	8·57		36 55	1933	"
Guaranteed contents	....	....	....	....	....	15·00	....	....	....		....	....	
Standard sample..	0·39	0·48	7·68	2·28	5·92	15·83	9·91	*	16·80		14 78	1934	"
Guaranteed contents	2·47	3·00	....	....	....	8·00	....	5·00	....		....	....	
Standard sample..	3·16	3·84	4·48	3·83	1·92	10·23	8·31	8·03	7·75		28 94	1935	"
Guaranteed contents	4·12	5·00	....	....	....	12·00	....	....	....		....	....	
Standard sample..	5·36	6·49	1·28	7·35	3·04	11·67	8·63	*	14·25		27 68	1936	"
Guaranteed contents	2·47	3·00	....	....	....	7·00	....	4·00	....		....	....	
Standard sample..	3·08	3·74	2·43	3·52	2·87	8·82	5·95	5·02	9·45		23 14	1937	A. Lemoine.
Guaranteed contents	2·47	3·00	....	....	....	20·00	....	....	....		....	....	
Standard sample..	4·14	5·03	1·15	12·29	10·55	23·99	13·44	....	6·65		31 31	1938	"
Guaranteed contents	....	....	8·00	2·00	1·00	11·00	10·00	8·00	....		20 10	....	
Standard sample..	....	....	4·63	3·37	3·67	11·67	8·00	8·24	10·70		18 61	1939	"
Guaranteed contents	2·06	2·50	6·00	2·00	1·00	9·00	8·00	1·50	....		18 20	....	
Standard sample..	2·10	2·55	7·35	1·28	3·07	11·70	8·63	2·49	12·55		20 77	1940	"

* None. † Trace.

TABULATED DESCRIPTION OF 163 STANDARD SAMPLES OF

Date when Advised.	Number of Sample.	Designation.	Name of Manufacturer.	By whom sent.	From what materials produced.
1907.					
Jan. 30	1941	Crocker's Cabbage and Potato Manure	American Agricultural Chemical Co., Buffalo Sales Dept., Buffalo, N.Y.	Manufacturers	
" 30	1942	Bradley's New Method Fertilizer.	" "	"	
" 30	1943	Bradley's B. D. Sea Fowl Guano.	" "	"	Animal matter (blood, bone and tankage) mineral phosphates, potash; all treated with sulphuric acid.
" 30	1944	Bradley's Complete Manure for Potatoes and Vegetables	" "	"	" "
" 30	1945	Special Potash Mixture.	" "	"	" "
" 30	1946	High Grade Potash Compound.	" "	"	" "
" 30	1947	Northwestern Complete Manure.	" "	"	" "
" 30	1948	Northwestern Tobacco Fertilizer.	" "	"	" "
Feb. 5	1949	New England Peerless Fertilizer.	New England Fertilizer Co., 40*a* North Market St., Boston, Mass.	"	Blood, meat, bone, bone-black, bone phosphates, nitrate of soda or sulphate of ammonia and sulphate or muriate of potash.
" 5	1950	New England Potato Fertilizer.	" "	"	" "
" 5	1951	New England Corn & Grain Fertilzer.	" "	"	" "
" 4	1952	Swift's Lowell Bone Fertilizer.	Swift's Lowell Fertilizer Co., 44 North Market St., Boston, Mass.	"	" "
" 4	1953	Swift's Lowell Cereal Fertilizer.	" "	"	" "
" 4	1954	Swift's Lowell Empress Brand.	" "	"	" "
" 4	1955	Swift's Lowell Animal Brand.	" "	"	" "
" 4	1956	Swift's Lowell Potato Manure.	" "	"	" "
" 4	1957	Swift's Lowell Potato Phosphate.	" "	"	" "
" 4	1958	Swift's Lowell Ground Bone.	" "	"	
" 4	1959	Swift's Lowell Potato Grower.	" "	"	" "
" 4	1960	Swift's Lowell Superior Fertilizer with 10 p.c. Potash.	" "	"	" "
" 12	1961	Thomas Phosphate Powder.	Chemical Works, late H. & E. Albert, 15 Philpot Lane, London, Eng.	Anglo-Canadian Chemical Co., St. John, N.B.	Ground basic slag

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AGRICULTURAL FERTILIZERS, REGISTERED FOR 1907—*Continued.*

—	Results of Analysis.									Relative value per ton of 2,000 lbs.	Number of Sample.	Name of Analyst.
	Nitrogen.		Phosphoric Acid.					Potash.	Moisture.			
	Total, including that of nitric acid and ammonia when present.	Total, calculated as ammonia.	Soluble in water.	Citric soluble.	Insoluble.	Total.	Total available.					
	p. c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	$ cts.		
Guaranteed contents	2·47	3·00	6·00	2·00	1·00	9·00	8·00	6 00	.....	24 10		
Standard sample..	2·72	3.30	5·76	3 19	2·56	11·51	8·95	4·05	12·02	24 49	1941	A. Lemoine.
Guaranteed contents	0·82	1·00	6·00	2·00	1·00	9·00	8·00	2·00	.....	14 49		
Standard sample..	0·86	1·05	5·30	1·95	2·77	10·02	7·25	2·25	11·15	14 51	1942	"
Guaranteed contents	2·06	2·50	6·00	2·00	1·00	9·00	8·00	1·50	.. ..	18 20		
Standard sample..	1·99	2·55	5·02	2·65	3·00	10·67	7·67	1·80	15·00	18 09	1943	A. Valin.
Guaranteed contents	3 29	4·00	6·00	2·00	1·00	9·00	8·00	7·00	.....	22 89		
Standard sample..	3·99	4·84	5·35	2·09	3·75	11·10	7·35	7·32	10 00	30 63	1944	"
Guaranteed contents	0·82	1·00	7·00	2 00	1·00	10·00	9·00	7·00	.....	20 49		
Standard sample..	1·26	1·53	6·87	1·60	3·04	11·51	8·47	7·18	16·00	21 31	1945	"
Guaranteed contents	1·65	2·00	6·00	2·00	1·00	9·00	8 00	10·00	.. ..	25 31		
Standard sample .	1·68	2 04	5·12	2·21	1·67	9·00	7·33	10·34	14·25	25 12	1946	"
Guaranteed contents	2·06	2·50	6·00	2·00	1·00	9·00	8·00	3·00	.....	19 70		
Standard sample..	2·49	3·03	6·87	1·76	2·08	10·71	8·63	4·88	13·32	24 15	1947	Miss S. E. Wright
Guaranteed contents	1·65	2·00	6 00	2·00	1·00	9·00	8·00	10·00	.. .	25 31		
Standard sample..	1·72	2·09	6·08	1·11	2·56	9·75	7·19	13 07	12·87	28 21	1948	"
Guaranteed contents	0·82	1·00	..	....	1·00	8·00	7·00	1·00	... .	11 79		
Standard sample..	1·07	1·31	5·59	0·81	1 28	7·68	6·40	2·36	5·27	13 98	1949	"
Guaranteed contents	1·65	2·00	..	....	....	8 00	7·00	4·00	.....	17 61		
Standard sample..	1·57	1·90	5·43	1·76	2·72	9·91	7·19	4 04	5·70	18 66	1950	"
Guaranteed contents	1·24	1·50	....	....	.....	8·00	7·00	2·00	.....	14 22		
Standard sample..	1·36	1·65	6·18	2·13	2·08	10·39	8·31	2·41	5·92	17 41	1951	"
Guaranteed contents	1·65	2·00	....	....	.....	9·00	8 00	3·00	....	17 71		
Standard sample..	1·65	2·01	6·87	.....	3·68	10·55	6·87	4·94	8·67	19 90	1952	"
Guaranteed contents	0·82	1 00	....	.....	1·00	8·00	7 00	1·60	.....	11 79		
Standard sample..	1·26	1·53	2·43	4·28	2·11	8·82	6·71	2·04	6·25	14 58	1953	A. Lemoine.
Guaranteed contents	1·24	1·50	....	.....	1·00	8·00	7·00	2·00	.....	14 22		
Standard sample..	1·54	1·87	4·99	3·00	3·39	11·38	7·99	2·72	8·90	18 27	1954	"
Guaranteed contents	2·47	3·00	....	.....	.....	10·00	8·00	4·00	.....	21 80		
Standard sample..	2·38	2·89	4·67	3·96	3 39	12·02	8·63	4 67	8·70	23 74	1955	"
Guaranteed contents	1·65	2·00	....	.....	.....	8·00	7·00	4 00	. .	17 61		
Standard sample..	1·68	2·04	4·15	3·21	1·91	9·27	7·36	4·42	5·35	19 21	1956	"
Guaranteed contents	2·47	3·00	....	. .	....	9·00	8·00	6·00	.....	23 50		
Standard sample..	2·80	3·40	4·03	4·29	2·55	10·87	8·32	6·46	8·00	26 30	1957	"
Guaranteed contents	2·47	3·00	....	.....	.....	25·00	.....	. .	. .	...		
Standard sample..	2·80	3·40	0·96	19·00	8·18	28·14	19 96	trace	5·80	33 46	1958	"
Guaranteed contents	3·30	4·00	....	.....	. . .	7·00	6·00	10·00	.....	28 12		
Standard sample..	3·40	4·13	4·64	2·24	1·12	8·00	6·88	10·98	7 50	30 91	1959	A. C. Macfarlane
Guaranteed contents	3·70	4·50	....	....	1·00	8·00	7·00	10·00	.....	30 58		
Standard sample..	3·59	4·25	4 15	4·00	2·24	10·39	8·15	10·87	5·75	32 82	1960	"
Guaranteed contents	.....	.....	.....	.....	... .	14·00	.....	.....	.....	.....		
Standard sample.	....	....	.....	....	13 76	2·87	16 63	13·76	.....	trace	16 00	1961	"

TABULATED DESCRIPTION OF 173 STANDARD SAMPLES OF

Date when Advised.	Number of Sample.	Designation.	Name of Manufacturer.	By whom Sent.	From what Materials Produced.
1907.					
Feb. 12	1962	Albert Horticultural Manure, Brand A. G.	Chemical Works, late A. & E. Albert, in Biebrich, on the Rhine, Germany.	Anglo-Canadian Chemical Co., St. John, N.B.	
" 18	1963	Ground Bone..	Pidgeon Fertilizer Co., Ltd., Windsor, N.S.	Manufacturers	Bones ground
" 18	1964	Intense Brand	" "	"	Nitrate of soda, dried blood and tankage, ground bone, muriate of potash, potash salts, rock phosphate, sulphuric acid and sulphate of ammonia.
" 18	1965	Eureka Superphosphate.	" "	"	"
" 18	1966	Potato Manure	" "	"	"
" 18	1967	Potato Guano	Pidgeon Fertilizer Co., Ltd., Windsor, N.S.	Manufacturers	Nitrate of soda, dried blood and tankage, ground bone, muriate of potash, potash salts, rock phosphate, sulphuric acid and sulphate of ammonia.
" 12	1968	Michigan Carbon Fruit and Vine Fertilizer.	Michigan Carbon Works, Detroit, Mich.	The American Agricultural Chemical Co., Buffalo Sales Dept.	Animal matter (blood, bone and tankage) mineral phosphates, potash ; all treated with sulphuric acid.
" 12	1969	Michigan Carbon Complete Manure.	" "	" "	" "
" 12	1970	Michigan Carbon Defiance Fertilizer	" "	" "	"
" 26	1971	Thomas Phosphate Powder.	Chemical Works, late H. & E. Albert, 15 Philpot Lane, London, E.C.	Anglo-Canadian Chemical Co., St. John, N.B.	Ground basic slag
" 26	1972	Coriolis Fertilizer No. 1, for Potatoes	John Poynter, Son and Macdonalds, Glasgow, Scotland.	Baron Gustave de Coriolis, 56 Notre Dame St. East, Montreal.	Sulphate of ammonia, nitrogenous substances, superphosphates, sulphate of potash and muriate of potash.
" 28	1973	Homestead, a Bone Black Fertilizer.	Michigan Carbon Works, Detroit, Mich.	Manufacturers	Dissolved bone black, mineral phosphate, sulphate of ammonia, acidulated tankage, sulphate or muriate of potash
" 28	1974	Homestead Potato and Tobacco Fertilizer.	" "	" "	" "
" 28	1975	Homestead High Grade Garden and Vegetable Fertilizer.	" "	" "	" "
" 28	1976	Desiccated Bone	" "	" "	Produced from pure animal bone.
March 2	1977	Coriolis Fertilizer No. 7 for Fodder, Indian Corn and Tobacco.	The Freeman Company, Hamilton, Ont.	Baron Gustave de Coriolis 56 Notre Dame St. East, Montreal.	Sulphate of ammonia, nitrate of soda, superphosphates, sulphate of potash, and muriate of potash.

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AGRICULTURAL FERTILIZERS, REGISTERED FOR 1907—*Continued.*

	Results of Analysis.												
	Nitrogen.		Phosphoric Acid.										
	Total, including that of nitric acid and ammonia when present.	Total calculated as ammonia.	Soluble in water.	Citric soluble.	Insoluble.	Total.	Total available.	Potash.	Moisture.	Relative value per ton of 2,000 lbs.	Number of Sample.	Name of Analyst.	
	p.c.	p.c.	p.c	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	$ cts.			
Guaranteed contents	12·37	15·02	10·71	.....	.....	.....	.....	15·50	.....	70 41			
Standard sample..	12·04	14·62	9 14	1·73	1·47	12·34	10·87	16·43	7·55	70 68	1962	A. C. Macfarlane	
Guaranteed contents	2·47	3·00	.....	.....	.....	20·00	.....	.....	.....	.....			
Standard sample .	3·01	3·65	.....	13·92	9·22	23·14	13·92	.....	6·05	27 71	1963	A. Valin.	
Guaranteed contents	2·88	3·50	.....	.....	.....	7·00	.....	4·50	.....	.....			
Standard sample.	2·94	3·57	6·50	0·92	0·70	8·12	7·42	3·70	11·65	22 72	1964	"	
Guaranteed contents	2·06	2·50	.....	.....	.....	8·00	.....	1·50	.....	.....			
Standard sample..	2 33	2·83	5·25	2·77	1·10	9·12	8·02	1·54	16·87	19 14	1965	"	
Guaranteed contents	2·47	3·00	.....	.....	.....	9·06	.....	4·00	.....	.....			
Standard sample..	2·40	2·90	5·92	2·98	1·52	10·42	8·90	3·47	13·95	22 47	1966	"	
Guaranteed contents	2·06	2·50	.....	.....	.....	10·00	8·00	1·50	.....	17 90			
Standard sample..	2·00	2·42	5·06	2·99	1·07	9·12	8 05	1·79	17.35	18 27	1967	A. Valin.	
Guaranteed contents	1·65	2·00	6·00	2·00	1·00	9·00	8·00	10·00	.....	25 31			
Standard sample..	1·98	2 41	5·43	3·52	2·75	11·70	8·95	9·87	12 90	27 82	1968	A. Lemoine.	
Guaranteed contents	1·65	2·00	6·00	2·00	1·00	9·00	8·00	4·00	.....	19 31			
Standard sample..	1·60	1·94	6·35	2·72	2·35	11·42	9 07	1·03	13·25	20 78	1969	A. Valin.	
Guaranteed contents	1·65	2·00	6·00	2·00	1·00	9·00	8·00	2·00	.....	17 31			
Standard sample .	1·78	2·15	5·85	2·70	1·85	10·40	8·55	2·12	12·50	18 71	1970	"	
Guaranteed contents	.....	.....	.....	.....	.....	17·00	.....	.....	.....	.....			
Standard sample..	.....	.....	.....	14·45	4·25	18·70	14·45	.....	4·75	17 16	1971	"	
Guaranteed contents	4·45	5·40	.....	.....	.....	6·00	.....	9·50	.....	.....			
Standard sample..	5·01	6·08	6 15	0·82	0·50	7·47	6·97	9·34	5.95	34 80	1972	"	
Guaranteed contents	2·06	2.50	.....	.....	.....	8·00	.....	1·50	.....	.....			
Standard sample..	1·96	2·38	6·12	1·06	1·82	9·00	7·18	1·56	12·60	17 28	1973	"	
Guaranteed contents	2·06	2·50	.....	.....	.....	8·00	.....	3·00	.....	.....			
Standard sample..	2·25	2 73	5·17	1·73	2·40	9·60	7·29	3·51	13·00	20 34	1974	"	
Guaranteed contents	2·06	2·50	.....	.....	.....	8·00	.....	6·00	.....	.....			
Standard sample..	2·17	2·64	6·27	2·49	2·43	11·19	8·76	6·93	14·90	25 29	1975	A. Lemoine.	
Guaranteed contents	1·24	1·50	.....	.....	.....	25·00	.....	.....	.....	.....			
Standard sample.	1·12	1·36	.....	19·32	13·43	32·75	19·32	.....	10·55	28 86	1976	"	
Guaranteed contents	5·77	7·00	.....	.....	.....	.....	5·00	8·00	.....	.....			
Standard sample .	6·93	8·41	2·75	0·57	1·79	5·11	3·32	7·68	9·55	35 71	1977	"	

TABULATED DESCRIPTION OF 173 STANDARD SAMPLES OF

Date when Advised.	Number of Sample.	Designation.	Name of Manufacturer.	By whom sent.	From what materials Produced.
1907.					
March 2	1978	Coriolis Extra High Grade Fertilizer No. 4 for cabbage, carrots, beets, celery, other vegetables and flowers.	The Freeman Company, Hamilton, Ont.	Baron Gustave de Coriolis, 56 Notre Dame St., East, Montreal.	Sulphate of ammonia, nitrate of soda, superphosphates, sulphate of potash, and muriate of potash.
" 2	1979	Coriolis Fertilizer No. 3, for grain.	" " ..	" " ..	" " ..
Feb. 25	1980	Ceres Superphosphate.	Nova Scotia Fertilizer Co., Halifax, N.S.	" " ..	Bone-char, bone, dried blood, tankage, meat, fish bone, phosphates, sulphate of ammonia, nitrate of soda, high grade muriate of potash or sulphate of potash and sulphuric acid.
" 25	1981	Southern Guano...	" " ..	" " ..	Phosphatic guanos, bone char, dried blood, tankage, meat, fish, bone, phosphates, sulphates of ammonia, nitrate of soda, high grade muriate of potash or sulphate of potash and sulphuric acid.
" 25	1982	Potato Phosphate.	" " ..	" " ..	Bone-char, bone, dried blood, tankage, meat, fish, bone, phosphates, sulphate of ammonia, nitrate of soda, high grade muriate of potash or sulphate of potash and sulphuric acid.
" 25	1983	Blood, Bone and Potash.	" "	" " ..	" " ..
March 6	1984	Imperial Superphosphate.	Provincial Chemical Fertilizer Co., Ltd. St. John, N.B.	" " ..	.....
" 6	1985	Potato Phosphate...	" " .	" " ..	.....
" 6	1986	Victor Guano... ..	" " .	" " ..	.....
" 6	1987	Bone meal	" " ..	" " ..	.....
" 6	1988	Blood, Bone and Potash.	" " ..	" "	.....
" 6	1989	10% Complete Aroostook Potato.	" " ..	" " ..	.....
Mar. 7	1990	Reid's Superphosphate.	Thos. Reid, St. John, N.B.	Manufacturer.....	Bone, meat, fish refuse, charcoal, kainic, sulphate of ammonia, &c.
" 8	1991	Gregory's Special Tobacco Guano.	Michigan Carbon Works, Detroit, Mich.	Manufacturers .	.....
" 12	1992	Capelton Superphosphate No. 1.	The Capelton Chemical and Fertilizer Co., Buckingham, Que.	"	Phosphate, sulphate of ammonia, sulphate muriate and nitrate of potash and tankage.
" 12	1993	Royal Canadian ...	" ..	"	" " ..

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AGRICULTURAL FERTILIZERS, REGISTERED FOR 1907—*Continued.*

	Results of Analysis.												
	Nitrogen.		Phosphoric Acid.										
	Total, including that of nitric acid and ammonia when present.	Total calculated as ammonia.	Soluble in water.	Citric soluble.	Insoluble.	Total.	Total available.	Potash.	Moisture.	Relative Value per ton of 2,000 lbs.	Number of Sample.	Name of Analyst.
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	$ cts.		
Guaranteed contents	8·23	10·00	6·00	.....	.....	.....	.....	10·00	.....	45 18		
Standard sample..	10·08	12·24	3·07	1·41	1·15	5·63	4·48	6·27	9·50	46 11	1978	A. Lemoine.
Guaranteed contents	6·58	8·00	6·00	.....	.....	.....	.....	10·00	.....	39 57		
Standard sample..	7·35	8·92	2·75	2·37	2·23	7·35	5·12	9·03	8·75	40 60	1979	"
Guaranteed contents	1·65	2·00	.....	.....	.....	7·00	.....	2·00	.....	.....		
Standard sample..	2·15	2·61	6·90	1·86	2·75	11·51	8·76	3·78	12·65	22 24	1980	"
Guaranteed contents	1·65	2·00	.....	.....	.....	7·00	.....	2·50	.....	.....		
Standard sample.	2·66	3·23	6·71	0·64	1·79	9·14	7·35	5·19	8·70	23 52	1981	"
Guaranteed contents	1·65	2·00	..	.....	.....	7·00	.....	4·00	.....	.....		
Standard sample.	2·74	3·33	6·71	1·28	2·75	10·74	7·99	4·34	9·25	23 94	1982	"
Guaranteed contents	1·65	2·00	.....	.....	.....	7·00	.....	4·00	.....	.....		
Standard sample..	2·86	3·47	7·54	0·26	2·43	10·23	7·80	4·34	9·60	24 13	1983	"
Guaranteed contents	2·47	3·00	..	.....	.....	10·50	.....	1·50	.....	.....		
Standard sample..	3·20	3·89	6·71	1·29	1·91	9·91	8·00	2·27	8·55	23 19	1984	"
Guaranteed contents	2·06	2·50	.....	.....	.....	8·00	.....	6·50	.....	.....		
Standard sample.	2·04	2·48	5·60	1·50	0·40	7·50	7·10	6·94	11·80	22 37	1985	A. Valin.
Guaranteed contents	1·65	2·00	.....	.....	.....	7·00	.....	2·50	.....	.....		
Standard sample..	1·99	2·41	4·30	4·25	0·80	9·35	8·55	2·99	10·65	19 83	1986	"
Guaranteed contents	2·55	3·10	.....	.....	.....	24·14	.....	.....	.....	.....		
Standard sample..	3·22	3·91	.....	15·88	9·07	24·95	15·88	.....	7·00	30 49	1987	"
Guaranteed contents	1·65	2·00	.....	.....	.....	7·00	..	4·00	.....	.....		
Standard sample..	2·24	2·72	3·60	3·40	1·60	8·60	7·00	3·47	6·60	19 33	1988	"
Guaranteed contents	3·30	4·00	..	.....	.....	8·00	.....	10·00	.....	..		
Standard sample..	2·80	3·40	4·32	2·95	1·35	8·62	7·27	10·75	9·50	29 09	1989	"
Guaranteed contents	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Standard sample..	4·41	5·35	2·16	3·41	4·90	10·47	5·57	2·00	5·25	24 80	1990	A. Valin.
Guaranteed contents	2·47	3·60	.....	.....	.....	8·00	.....	4·00	.....	.....		
Standard sample..	3·22	3·91	6·71	2·57	1·91	11·19	9·28	4·32	9·52	26 72	1991	A. Lemoine.
Guaranteed contents	.....	.....	.....	.....	.....	10·00	.....	.....	.....	.....		
Standard sample .	2·52	3·06	2·23	7·68	2·43	12·34	9·91	1·33	11·45	21 75	1992	"
Guaranteed contents	3·30	4·00	.....	.....	.....	9·00	.....	5·00	.....	.....		
Standard sample..	4·34	5·27	7·86	0·97	1·91	10·74	8·83	5·19	11·55	31 02	1993	"

TABULATED DESCRIPTION OF 173 STANDARD SAMPLES

Date when Advised.	Number of Sample.	Designation.	Name of Manufacturer.	By whom sent.	From what materials Produced.
1907.					
Mar.	12 1994	Victor	The Capelton Chemical and Fertilizer Co., Buckingham, Que.	Manufacturers	Phosphate, sulphate of ammonia, sulphate muriate, and nitrate of potash and tankage.
"	12 1995	Reliance	" "	"	" "
"	13 1996	Bone Meal	W. Harris & Co., Toronto, Ont.	"	
"	13 1997	Fertilizer "H."	" "	"	
"	15 1998	Superphosphate of Lime.	Standard Fertilizer & Chemical Co., Ltd., Smith's Falls	"	
"	15 1999	Special Fertilizer	" "	"	
"	15 2000	Standard Fertilizer	" "	"	
"	15 2001	Royal Fertilizer	" "	"	
"	15 2002	Bone Meal	" "	"	
"	15 2003	Nitrate of Soda	" "	"	
"	19 2004	Essex Ground Bone	Russia Cement Co., Mfg. of Essex High Grade Fertilizers, Gloucester, Mass.	S. C. Shaffner, Granville Ferry, N.S.	
Feb.	4 2005	Bradley's Superphosphate for Orchards	The American Agricultural Chemical Co., Boston Sales Dept., Boston, Mass.	Manufacturers	Bone black or phosphatic guanos, muriate or sulphate of potash.
"	4 2006	Bradley's Potato Fertilizer.	" "	"	Bone black, animal bone, phosphatic guanos, dried fish, meat or blood, nitrate of soda or sulphate of ammonia, sulphate or muriate of potash, sulphuric acid,
"	4 2007	Bradley's XL Superphosphate of Lime	" "	"	" "
"	4 2008	Bradley's Farmer's New Method Fertilizer.	" "	"	" "
"	4 2009	Bradley's Fine Ground Bone.	" "	"	
"	4 2010	Bradley's Eclipse Phosphate.	" "	"	Bone black, animal bone, phosphatic guanos, dried fish, meat or blood, nitrate of soda or sulphate of ammonia, sulphate or muriate of potash, sulphuric acid.
"	4 2011	Bradley's Eureka Fertilizer.	" "	"	" "
"	4 2012	Bradley's Alkaline Bone with Potash.	" "	"	Bone black or phosphatic guanos, muriate or sulphate of potash.

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OF AGRICULTURAL FERTILIZERS, REGISTERED FOR 1907—*Continued.*

—	Results of Analysis.										Number of Sample.	Name of Analyst.
	Nitrogen.		Phosphoric Acid.							Relative Value per ton of 2,000 lbs.		
	Total, including that of nitric acid and ammonia when present.	Total calculated as ammonia.	Soluble in water.	Citric soluble.	Insoluble.	Total.	Total available.	Potash.	Moisture.			
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	$cts.		
Guaranteed contents	2·06	.....	.....	.....	.....	7·00	.....	3·00	.....	.....		
Standard sample..	3·01	3·87	3·83	2·44	2·23	8·50	6·27	5·29	8·35	23 47	1994	"
Guaranteed contents	1·65	2·00	....	....	.....	6·00	....	2·00	.....	.		
Standard sample ..	2·80	3·40	1·91	3·21	1·91	7·03	5·12	3·53	5·30	19 45	1995	"
Guaranteed contents	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Standard sample..	4·76	5·84	....	15·04	6·39	21·43	15·04	.....	4 26	33 69	1996	"
Guaranteed contents	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Standard sample..	5·88	7·14	....	6·20	5·95	12·15	6·20	.....	8·25	28 60	1997	"
Guaranteed contents	.....	.....	.....	.....	.....	14·00	12·00	.....	.....	.		
Standard sample..	0·70	0·85	15·54	1·22	4·67	21·43	16·76	trace	2·35	23 77	1998	"
Guaranteed contents	2·88	3·50	....	....	....	10 00	8·00	6·00	.....	.....		
Standard sample..	3·50	4·25	8·82	1·86	4·03	14·71	10·68	7·89	3·85	33 63	1999	"
Guaranteed contents	2·06	2·50	....	.....	.. ..	11·00	9·00	2·00	....	....		
Standard sample..	2·66	3·23	11·83	1·28	4·67	17·78	13·11	2·29	3·85	28 34	2000	"
Guaranteed contents	1·65	2·00	....	.....	.....	10·00	8·00	3·00	.....	.. .	$18.01.	
Standard sample..	1·96	2·38	13·11	0·45	4·35	17·91	13.56	3·37	2·70	27 55	2001	"
Guaranteed contents	3·29	4·00	.. .	.....	.....	...	20·00	.....	.....	..		
Standard sample..	2·24	2·48	....	15·36	10·10	25·46	15·36	.....	6·00	27 09	2002	"
Guaranteed contents	14·00	17·00	....	.....	.....	.....	.....	.....	.....	47 60		
Standard sample..	14 56	17·68	....	.....	.....	.....	. .	.....	0·50	49 50	2003	"
Guaranteed contents	2·47	3·00	....	.....	.....	20·00	.....	.....	.....	... .		
Standard sample..	3·50	4·25	. .	15·49	12·02	27·51	15·49	.....	3·20	31 85	2004	"
Guaranteed contents	.....	.....	11·00	....	.....	....	14·00	.....	.....	16 50		
Standard sample..	.....	... .	11·51	2·24	2·43	16·18	13·75	0·57	11·50	17 58	2005	"
Guaranteed contents	2·06	2·50	5·00	3·00	2·00	10·00	8·00	3·90	.....	19 90		
Standard sample..	2·24	2·48	7·03	5·76	1·15	13·94	12·79	2·99	13·20	25 72	2006	"
Guaranteed contents	2·06	2·50	5·00	3·00	2·00	10·00	8·00	1·50	.....	18 40		
Standard sample..	2·10	2·55	4·79	5·64	1·91	12·34	10·43	1·56	14·00	21 23	2007	"
Guaranteed contents	1·03	1·25	6·00	2·00	2·00	10·00	8·00	2·00	.....	15 50		
Standard sample..	1·13	1·38	6·87	2·39	1·44	10·70	9·26	2·27	14·60	17 42	2008	A. C. Macfarlane
Guaranteed contents	2 47	3 00	....	.....	....	20·60	... .	....	.. ..	...		
Standard sample..	1·99	2 41	trace.	16·62	4·48	21·10	16 62	...	6 10	25 99	2009	"
Guaranteed contents	1·03	1·25	6·00	2·00	2·00	10·00	8·00	2·00	.....	15 50		
Standard sample..	1·08	1·31	5·59	4·16	1·60	11 35	9·75	2·16	15·25	17 60	2010	"
Guaranteed contents	1·03	1·25	6·00	2·00	2·00	10·00	8·00	2·00	.....	15 50		
Standard sample..	1·04	1·26	7·19	3·04	1·12	11·35	10·23	1 98	14·10	17 82	2011	"
Guaranteed contents	.... ..	.....	6·00	5·00	1·00	12·00	11·00	2 00	.....	15 00		
Standard sample..	.. ....	.....	6·91	3·80	1·60	12·31	10·71	4·94	13·75	17 89	2012	Miss S. E. Wright

TABULATED DESCRIPTION OF 173 STANDARD SAMPLES

Date when Advised.	Number of Sample.	Designation.	Name of Manufacturer.	By whom sent.	From what materials Produced.
1907.					
Feb. 4	2013	Bradley's Complete Manure with 10 p. c. Potash.	The American Agricultural Chemical Co., Boston Sales Dept., Boston, Mass.	Manufacturers ...	Bone black, animal bone, phosphatic Guanos, dried fish, meat or blood, nitrate of soda or sulphate of ammonia, sulphate or muriate of potash, sulphuric acid.
" 4	2014	Read's Standard Superphosphate.	The American Agricultural Chemical Co, Boston Sales Dept., Boston, Mass.	Manufacturers . .	Bone black, animal bone, phosphatic guanos, dried fish, meat or blood, nitrate of soda or sulphate of ammonia, sulphate or muriate of potash, sulphuric acid.
" 4	2015	Read's Sure Catch Fertilizer.	" " ..	"	Bone black or phosphatic guanos, muriate or sulphate of potash.
" 4	2016	Read's Fish, Bone and Potash	" " . .	" . . .	Bone black, animal bone, phosphatic guanos, dried fish, meat or blood, nitrate of soda or sulphate of ammonia, sulphate or muriate of potash, sulphuric acid.
" 4	2017	Read's Practical Potato Special.	" " ..	"	" " ..
" 4	2018	Read's Vegetable and Vine.	" " ..	" ...	" " ..
" 4	2019	Read's Potato Manure.	" " ..	"	" " ..
" 4	2020	Read's High Grade Farmer's Friend.	" " ..	"	" " ..
" 4	2021	Tucker's Imperial Bone Superphosphate.	" " ..	" ...	" " ..
" 4	2022	Williams & Clark's American Potato Manure.	" " ..	"	" " ..
" 4	2023	Pacific Potato Special	" " ..	"	" " ..
" 4	2024	Pacific Nobsque Guano.	" " ..	" . ..	" " ..
" 4	2025	Pacific Fine Ground Bone.	" " ..	"	....
" 4	2026	Soluble Pacific Guano	" " ..	"	Bone black, animal bone, phosphatic guanos, dried fish, meat or blood, nitrate of soda or sulphate of ammonia, sulphate or muriate of potash, sulphuric acid.
" 4	2027	Quinnipiac Climax Phosphate for all Crops.	" " ..	"	" " ..
" 4	2028	Quinnipiac Potato Manure.	" " .	"	" " .
4	2029	Quinnipiac Market Garden Manure.	" " ..	"	" "

SESSIONAL PAPER No. 14

OF AGRICULTURAL FERTILIZERS, REGISTERED FOR 1907—*Continued.*

—	Results of Analysis.									Relative Value per ton of 2,000 lbs.	Number of Sample.	Name of Analyst.
	Nitrogen.		Phosphoric Acid.					Potash.	Moisture.			
	Total, including that of nitric acid and ammonia when present.	Total calculated as ammonia.	Soluble in water.	Citric soluble.	Insoluble.	Total.	Total available.					
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	$ cts.		
Guaranteed contents	3·30	4·00	4·00	2·00	1·00	7·00	6·00	10·00	.....	28 52		
Standard sample..	3·40	4·10	5·63	2·68	1·28	9 59	8·31	11·64	12·00	33 29	2013	Miss S. E. Wright.
Guaranteed contents	0·82	1·00	5·00	3·00	2·00	10·00	8·00	4·00	.....	16 69		
Standard sample..	0·76	0·92	5·37	4·38	2·08	11·83	9·75	5·14	12·22	19 61	2014	,,
Guaranteed contents	.....	.....	6·00	5·00	1·00	12·00	11·00	2·00	.....	15 00		
Standard sample..	.....	.....	7·67	4·32	1·76	13·75	11·99	4.56	12·90	19 04	2015	,,
Guaranteed contents	1·98	2·40	....	... .	.....	.....	4·00	4·00	.....	....		
Standard sample..	2·07	2·52	4·80	4·63	1·44	10 87	9·43	5·14	11·87	23 46	2016	,,
Guaranteed contents	0·82	1·00	2 00	2·00	1·00	5·00	4·00	8·00	.....	15 69		
Standard sample..	1·33	1·50	4·79	1·61	1·60	8·00	6·40	10·56	12·70	23 08	2017	,,
Guaranteed contents	2·06	2·50	5·00	3·00	2·00	10·00	8·00	6·00	... .	22 90		
Standard sample..	2·10	2·55	6·07	3·72	2·55	12 34	9·79	6·52	15·00	25 79	2018	A. Lemoine.
Guaranteed contents	2 40	3·00	5·00	1·00	1·00	7·00	6·00	10·00	.....	25 56		
Standard sample..	2·52	3·06	4·99	2·05	3·19	10·23	7·04	10·13	11·35	27 90	2019	,,
Guaranteed contents	3·30	4·00	4·00	2·00	1·00	7·00	6·00	10·00	.....	28 52		
Standard sample..	2·94	3·57	5·75	1·92	2·11	9·78	7·67	10·17	12·15	29 81	2020	,,
Guaranteed contents	1·03	1·25	6·00	2·00	2·00	10·00	8·00	2·00	.....	15 50		
Standard sample..	1·40	1·70	5·75	4·61	2·75	13·11	10·36	1·97	14·65	19 53	2021	,,
Guaranteed contents	2·06	2·50	5·00	3 00	2·00	10·00	8·00	3·00	.....	19 90		
Standard sample..	1·96	2·38	6·71	2·89	2·87	12·47	9·60	3·03	14·85	21 79	2022	,,
Guaranteed contents	2·06	2·50	5·00	3·00	2·00	10·00	8·00	3·00	.....	19 90		
Standard sample..	1·96	2·38	6·59	4·09	3·07	13·75	10·68	3·20	12·50	23 19	2023	,,
Guaranteed contents	1·03	1·25	6·00	2·00	2·00	10·00	8·00	2·00	... .	15 50		
Standard sample..	1·18	1·43	6·71	2·56	2·08	11·35	9·27	4·04	15·25	19 54	2024	A. C. Macfarlane.
Guaranteed contents	2·47	3·00	....	.....	.....	20·60	....	.....	.....	... ...		
Standard sample..	2·18	2·65	Tr.	12·47	10·71	23·18	12·47	... .	6·85	23 91	2025	,,
Guaranteed contents	2·06	2·50	5·00	3·00	2 00	10·00	8·00	1·50	.....	18 40		
Standard sample..	2·02	2·45	4·95	3·68	2·72	11·35	8 63	3·52	15 00	21 20	2026	,,
Guaranteed contents	1 03	1·25	6·00	2·00	2·00	10·00	8·00	2·00	.....	15 50		
Standard sample..	1·19	1·44	6·87	1 92	2·08	10·87	8·79	3·83	15·40	18 85	2027	
Guaranteed contents	2·50	3·00	5·00	1 00	2·00	8·00	6·00	5·00	....	21 20		
Standard sample..	2·97	3·69	5·11	2·72	1·60	9·43	7·83	5·12	11·20	24 82	2028	Miss S. E. Wright.
Guaranteed contents	3·30	4·00	6·00	2·00	1·00	9·00	8·00	7·00	....	20 92		
Standard sample..	3·37	4·10	6·65	1·86	2·56	10·07	8·51	7·92	11·07	30 17	2029	

TABULATED DESCRIPTION OF STANDARD SAMPLES OF

Date when Advised.	Number of Sample.	Designation.	Name of Manufacturer.	By whom sent.	From what materials Produced.
1907.					
Feb. 4	2030	Cumberland Superphosphate.	The American Agricultural Chemical Co., Boston Sales Dept., Boston, Mass.	Manufacturers.....	Bone black, animal bone, phosphatic guanos, dried fish, meat or blood, nitrate of soda or sulphate of ammonia, sulphate or muriate of potash, sulphuric acid.
" 4	2031	Cumberland Potato Fertilizer.	" " ..	" ...	" " ..
" 4	2032	Cumberland Fine Ground Bone.	" " ..	" ...	.....
" 4	2033	Standard Special for Potatoes.	" " ..	" ...	Bone black, animal bone, phosphatic guanos, dried fish, meat or blood, nitrate of soda or sulphate of ammonia, sulphate and muriate of potash, sulphuric acid.
" 4	2034	Darling's Blood, Bone and Potash.	" " ..	" ...	" " ..
" 4	2035	Clark's Cove Great Planet Manure.	" " ..	"	" " ..
" 4	2036	A. A. C. High Grade Fertilizer with 10 p.c. Potash.	" " ..	"	" " ..
Apl. 18	2037	Bone meal.....	Nova Scotia Fertilizer Co., Halifax, N.S.	" ...	....
" 18	2038	Bilston Basic Slag...	Alfred Hickman Co., Bilston, England.	E. E. McNutt, Truro, N.S.	....
May 18	2039	O'Dendorffs ground Basic slag.	Anglo-Continental Co., London.	H. H. McNutt, Lower Truro, N.S.	....
" 22	2040	Fertilizer *A*.	Victoria Chemical Co. Ltd., Victoria, B.C.	Manufacturers.....	Nitrate of soda, muriate of potash and superphosphate of lime.
" 22	2041	" *B*.	" " .	"	" " .
" 22	2042	" *C*.	" " .	" ...	Muriate of potash and superphosphate of lime.
" 22	2043	" *D*.	" " ..	" ...	Nitrate of soda, muriate of potash and superphosphate of lime.
" 22	2044	Superphosphate of lime.	" " ..	"	Spent bone, charcoal and sulphuric acid.
" 22	2045	Nittrate of soda.	Imported from Chili.	Victoria Chemical Co. Ltd., Victoria, B.C.	96 per cent real nitrate of soda.
" 22	2046	Kainit.	Imported from Germany.		Kainit with 12 per cent potash.
" 22	2047	Sulphate of potash.	" " ..	"	Sulphate of potash of 90·5 per cent.
" 22	2048	Muricate of potash.	" " ..	"	Muriate of potash of 82·4 per cent.
" 22	2049	Thomas Phosphate Powder.	" " ..	" ...	... ...

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AGRICULTURE FERTILIZERS, REGISTERED FOR 1907—*Continued.*

—	Results of Analysis.										Relative Value per ton of 2,000 lbs.	Number of Sample.	Name of Analyst.
	Nitrogen.		Phosphoric Acid.					Potash.	Moisture.				
	Total, including that of nitric acid and ammonia when present.	Total calculated as ammonia.	Soluble in water.	Citric soluble.	Insoluble.	Total.	Total available.						
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.		$ cts.		
Guaranteed contents	2·06	2·50	5·00	3·00	2·00	10·00	8·00	1·50	.....		18 40		
Standard sample..	1·93	2·35	5·24	3·87	2·24	11·35	9 11	2·47	14 37		20 25	2030	Miss S. E. Wright
Guaranteed contents	2·06	2·50	5·00	3·00	2·00	10·00	8·00	3·00	.....		19 90		
Standard sample..	2·16	2·62	5 88	3·39	1·92	11·19	9·27	3·69	14·42		22 40	2031	"
Guaranteed contents	2·47	3·00	....	....	.....	20·60	.....	.. ..	.....		.....		
Standard sample..	2·25	2·74	....	16·00	6·39	22 39	16·00	.....	6·35		27 17	2032	"
Guaranteed contents	2·06	2·50	5·00	3·00	2·00	10 00	8·00	3·00	.....		19·90		
Standard sample..	2·24	2·72	5 63	2·84	3·20	11·67	8·47	3·86	13·25		22 32	2033	"
Guaranteed contents	4·10	5·00	5·00	2·00	1·00	8·00	7·00	7·00	.. .		29 44		
Standard sample..	4·25	5·17	7·03	1·60	1·44	10·07	8·63	5·52	5·50		30 60	2034	A. C. Macfarlane.
Guaranteed contents	3·30	4·00	6·00	2·00	1 00	9·00	8·00	7·00	.....		27 92		
Standard sample..	3·24	4·42	7·19	1·76	1·92	10·87	8·95	6·62	4·88		28 79	2035	"
Guaranteed contents	2·40	3·00	5·00	1·00	1·00	7·00	6·00	10·00	.....		25 56		
Standard sample.	2 48	3 01	4·63	1·44	2·08	8·15	6·07	9·45	5·02		25 64	2036	"
Guaranteed contents	.....	.....	.....	.....	.....	.....	.....	.. ..	.. ..		.....		
Standard sample..	5·14	6·24	Tr.	18·07	7·67	25·74	18·07	.....	3·14		38 63	2037	"
Guaranteed contents	... ...	.....	.....	.....	.....	.....	.....	.....	.....		.....		
Standard sample..	.. ..	.....	....	16·31	5·75	22·06	16·31	.....	0·32		19 67	2038	"
Guaranteed contents	... .	....	..	15·18	2·62	17·80	.....	.....	.....		18·53	...	
Standard sample..	.....	.....	...	14 72	5·43	20·15	14 72	.....	0 55		17 82	2039	A. Lemoine.
Guaranteed contents	4·00	.....	.....	.....	.....	10·00	.....	7·00	.. ..		.....	..	
Standard sample..	4·06	4 93	10·23	0·38	0·90	11·51	10·61	7·95	9·95		34 72	2040	"
Guaranteed contents	3·50	.....	.. ..	.....	.....	9·00	.....	11·00	.....		...	....	
Standard sample..	3 36	4 08	9·78	0·80	0·80	11·38	10·58	11·83	.....		36·11	2041	"
Guaranteed contents	.....	.. ..	.....	.....	...	12·50	.....	11·00	.....		.....	....	
Standard sample..	0·56	0·68	12·98	0·78	1·59	15·35	13.76	11·12	7·95		29·94	2042	"
Guaranteed contents	2·50	.....	...	.....	.....	10·00	.....	11·00	.....		.....	....	
Standard sample..	2·66	3 23	10·10	0·93	0·80	11 83	11·03	11·31	9·05		33·73	2043	"
Guaranteed contents	.....	.....	.....	.....	.....	16·00	.....	.....	.....		.....	....	
Standard sample..	0 56	0·68	17·14	1·29	1·59	20·02	18·43	.....	8·30		24·37	2044	"
Guaranteed contents	16·00	.....	.....	.....	.....	.....	.....	.....	.....		54·40	...	
Standard sample..	15·68	19·04	(Corresponds to 95·20 p.c. nitrate of soda.)						1·80		53 31	2045	"
Guaranteed contents	....	.....	.....	.....	.....	.....	.....	12·00	.....		12.00	...	
Standard sample..	.....	.....	.....	.....	.....	.....	.....	13·74	12·95		13·74	2046	"
Guaranteed contents	.....	.....	...	.. ..	.....	.....	.....	50·00	.....		50.00	....	
Standard sample..	(Corresp'ds to 87·35 p.c. sulphate of potash.)							47 24	1·15		47.24	2047	"
Guaranteed contents	... ...	.....	.....	.....	.....	.....	.....	50·00	.. ..		50 00	.. .	
Standard sample..	(Corresp'ds to 79·61 p.c. muriate of potash.)							48·56	2·40		48.56	2048	"
Guaranteed contents	... .	.....	.....	.....	.....	16 00	.....	.....	.....		.....	...	
Standard sample..	.....	.....	...	12·48	4 79	17·27	12·48	Tr.	1·10		17 08	2049	"

TABULATED DESCRIPTION OF 173 STANDARD SAMPLES OF

Date when Advised.	Number of Sample.	Designation.	Name. of Manufacturer.	By whom sent.	From what materials Produced.
1907.					
May 14	2050	Standard.....	The American Agricultural Chemical Co., Boston Sales Dept., Boston, Mass.	Manufacturers ...	....
June 10	2051	No. 1 Fertilizer...	Standard Fertilizer & Chemical Co., Ltd., Smith's Falls.	"	Ammonia, potash and magnesia salts, mineral superphosphate and fine bone meal.

SESSIONAL PAPER No. 14

AGRICULTURE FERTILIZERS, REGISTERED FOR 1907—*Concluded.*

—	Results of Analysis.												Name of Analyst.
	Nitrogen.		Phosphoric Acid.							Relative Value per ton of 2,000 lbs.	Number of Sample.	
	Total, including that of nitric acid and ammonia where present.	Total calculated as ammonia.	Soluble in water.	Citric soluble.	Insoluble.	Total.	Total available.	Potash.	Moisture.			
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	$ cts.		
Guaranteed contents	2·06	2·50	5·00	3·00	2·00	10·00	8·00	1·50	.....	18 40	2050	Miss S. E. Wright
Standard sample..	2·26	2·74	6 65	3·87	3·07	13·59	10·52	2·89	13·73	23 73		"
Guaranteed contents	1 65	2·00	.. .	... .	.....	10·00	9·00	1·50	....	17 31	2051	"
Standard sample..	1·83	2·23	8·15	1·45	4·31	13·91	9·60	3.31	5·60	22 20		

REPORT

OF THE

MINISTER OF AGRICULTURE

FOR THE

DOMINION OF CANADA

FOR THE

YEAR ENDED MARCH 31

1907

PRINTED BY ORDER OF PARLIAMENT

OTTAWA
PRINTED BY S. E. DAWSON, PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1907

[No. 15, 1908.]

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REPORT

OF THE

MINISTER OF AGRICULTURE

1906-7.

To His Excellency the Right Honourable Sir Albert Henry George, Earl Grey, Viscount Howick, Baron Grey of Howick, in the County of Northumberland, in the Peerage of the United Kingdom, and a Baronet; Knight Grand Cross of the Most Distinguished Order of Saint Michael and Saint George, &c., &c., Governor General of Canada.

May it Please Your Excellency:

I have the honour to submit to Your Excellency a report of the Department of Agriculture for the fiscal year ended March 31, 1907.

I.—GENERAL REMARKS.

A synopsis of the operations of the department and of the various branches thereof which have been efficiently carried out during the past year, ended March 31, 1907, is laid before Your Excellency.

The legislation affecting the department during the session of parliament, 1906, consisted of:—

Chapter 15, 6 Edward VII., intituled 'An Act to amend the Fruit Marks Act, 1901.'

Chapter 23, 6 Edward VII., intituled 'An Act to repeal the Act to provide for the collection and publishing of labour statistics.'

Chapter 24, 6 Edward VII., intituled 'An Act respecting Leprosy.'

And during the past session (1906-7):—

Chapter 6, 6-7 Edward VII., intituled An 'Act to encourage the establishment of cold storage warehouses for the preservation of perishable food products.'

Chapter 21, 6-7 Edward VII., intituled 'An Act to amend the Inspection and Sale Act'; and

Chapter 27, 6-7 Edward VII., intituled 'An Act respecting the inspection of meats and canned foods.'

The Right Honourable the Secretary of State for the Colonies, under date the 17th August, 1905, transmitted the following:—

'Extract from the Board of Agriculture to the Colonial Office, dated August 1, 1905.

'Experience has shown that the existing statutory requirement that all cattle imported into this country shall be slaughtered in wharfs provided for the purpose at the port of landing is no obstacle to the development and maintenance of a large and valuable trade. In the case of Argentine, the number of cattle imported into Great Britain steadily rose from 4,200 in 1891 to 85,000 in 1899, when the trade was interrupted by the introduction of foot and mouth disease in that country. The value of the imports in question was £68,000 in 1891, and £1,392,000 in 1899. During the whole of that period the requirement of slaughter was in force. The case of the United States shows similar results. The number of cattle imported in 1879 was 76,000, with a value of £1,782,000. In 1904 the number imported was 401,000, with a value of £7,160,000. Slaughter at the port of landing was required for the first time in 1879, and has been enforced ever since. The board are glad to observe that similar results are indicated in the case of Canada. The imports during the past two years have been as follows:—

	No of cattle imported.	Declared value.
'1903.	190,812	£3,315,762
'1904.	146,598	2,547,451

'The highest figure recorded prior to 1892, when slaughter at the port of landing was first required, was in 1890. The imports in that year were 120,469, with a declared value of £1,892,298.

'The existing law does not cast any stigma or discredit upon Canadian cattle, for it holds good not only in the case of the United States and other foreign countries, but also in that of every British colony, including both Australia and New Zealand, whence live cattle have in the past been imported into Great Britain. It is in fact a sanitary law of universal application of great importance to stock-owners at home as a valuable safeguard against the introduction of disease, but not at all inconsistent with the transaction of a large and growing trade, as has already been shown.

'The experience of Argentina in 1900, and more recently of the United States in 1902, has shown how suddenly and unexpectedly foot and mouth disease may make its appearance in a country, quite irrespective of the maintenance of an efficient veterinary organization. In the former case diseased animals were actually imported into this country, and it was only by dint of good fortune and the most strenuous exertions that the infection was kept within the limits of the foreign animals wharfs. A similar result might well have happened in 1902 in the case of the United States, notwithstanding the ability and energy of the Department of Agriculture in that country.

'The enormous losses which British agriculturists have suffered during the last thirty years, mainly by reason of the increased pressure of colonial and foreign competition, make it more than ever necessary that every possible precaution should be taken against the introduction of disease, consistent with the reasonable requirements of colonial producers and the interests of consumers at home. The consequence of the recurrence in Great Britain of epidemics of disease, such as have been experienced in the past, would now be disastrous, and consumers as well as producers would be affected throughout the country. It is therefore in the general interest that no risk

should be taken which can be avoided by the maintenance of a law which provides a considerable measure of security against the introduction of disease, and at the same time does so without any serious stoppage of trade and without rendering it necessary for any action of an invidious character to be taken in regard to the cattle imported from a particular colony or country.'

Vide *Canada Gazette*, vol. xxxix., p. 473.

The following despatch under date August 31, 1905, addressed to the Officer Administering the Government of Canada, signed by the Right Honourable the Secretary of State for the Colonies, treats upon a subject-matter pertaining to the administration of my department:—

'Sir,—I have the honour to communicate to you, with a view to the attention of traders in the colony being drawn to the matter, the following representations made by His Majesty's consul in Buenos Ayres in a despatch to the Foreign Office, respecting the registration of trade marks in the Argentine Republic.

'Mr. Consul Ross suggests from what has come under his notice, that the importance of registration in the Republic of marks well known and therefore valuable, is not understood or appreciated by British merchants either in the United Kingdom or in the colonies. He states that, according to the Argentine law, it is permissible for any one to register in the Republic a trade mark for one class or for any number of different classes of goods, provided that mark has not already been registered in that country; that the cost of registration, including agents' fees, is about £10, and the time necessary to obtain registration about six weeks, and that registration gives protection for ten years.

'Attention is called to the serious disadvantage which may result from non-registration. A person not necessarily being the real owner of a particular trade mark, but having registered that mark in the Argentine, can lay an embargo on any goods he may find bearing that mark, although such goods may have been made by the original owner of the mark and have been legitimately introduced into the country. An instance is given of the case of a Canadian firm which has been selling for some years under a certain mark, and now finds that it may not import its own goods into the Argentine Republic under that mark because it has been registered by a firm of importers in Buenos Ayres; and so far as the consul can learn, there is no remedy except for the original owners to buy up the local registered owner of the mark, unless the manufacturer is prepared to invent and push another trade mark.

'Registration in the Argentine Republic can be effected by an agent acting under a power of attorney in the form inclosed*, which should be certified to by an Argentine consul; and His Majesty's consul at Buenos Ayres has declared his willingness to furnish the name of a reliable patent agent in that city.

'I have the honour to be, sir,

'Your most obedient, humble servant,

'Alfred Lyttelton.

'The Officer Administering the Government of Canada.'

By order in council of the 22nd of July, 1905, under the provisions of section 29, chapter 11, 3 Edward VII., intituled 'An Act respecting infectious or contagious diseases affecting animals,' the order in council and regulations relating to the disease of *maladie du coït* of July 8, 1904, were rescinded, and the following regulations were established to come into force at once:—

*See Canada Gazette, vol. xxxix., p. 631, for inclosure.

REGULATIONS RELATING TO MALADIE DU COÏT.

Authorized by Order in Council dated the 22nd day of July, 1905, in virtue of 'The Animal Contagious Diseases Act, 1903.'

1. No animal which is affected, or suspected of being affected, with maladie du coït shall be permitted to run at large, or to come in contact with any animal which is not so affected, and no such animal shall, in any case, be used for breeding purposes.

2. Any veterinary inspector may declare to be an infected place within the meaning of 'The Animal Contagious Diseases Act, 1903,' any common, field, stable or other place or premises where animals are found which are affected or suspected of being affected with maladie du coït.

3. No animal shall be removed out of an infected place without a license signed by an inspector.

4. The Veterinary Director General may, from time to time, order the slaughter, castration, or other disposition of animals affected with maladie du coït.

5. Every veterinary inspector shall have full power to order animals affected, or suspected of being affected with maladie du coït to be collected for inspection, and, when necessary, to be detained and isolated or otherwise dealt with in accordance with the instructions of the Veterinary Director General, and no indemnity shall be allowed to the owner in case of damage arising out of or resulting from such actions, except as hereinafter provided.

6. The expenses of and incidental to the collection, isolation, seizure, castration or otherwise dealing with horses for the purposes of these regulations shall be borne by the owners of the animals.

7. No entire horse or ridgling more than one year old shall be permitted to run at large on unfenced lands in the province of Alberta or in that portion of the province of Saskatchewan lying west of the third principal meridian.

8. Any entire horse or ridgling more than one year old found running at large within the area defined above may be seized and held on the order of any duly authorized veterinary inspector of the Department of Agriculture, who shall forthwith whenever possible notify the owner of the said horse of such seizure, and the said horse, if not claimed within thirty days of such seizure, may be castrated, and no indemnity shall be allowed to the owner in case of damage arising out of or resulting from said castration, seizure or detention.

9. Animals affected with maladie du coït may, on an order signed by a duly appointed veterinary inspector acting under special instructions from the Veterinary Director General, be forthwith slaughtered, and the carcasses disposed of as in such order provided, and compensation may be paid to the owners of such animals if and when the Act so provides.

10. Before an order is made for the payment of compensation in any of the cases aforesaid there must be produced to the Minister of Agriculture a satisfactory report, order for slaughter and certificate of valuation and slaughter, all signed by an inspector.

By order in council of the 10th of August, 1905, in virtue of the provisions of section 29, chapter 11, 3 Edward VII., intituled 'An Act respecting infectious or contagious diseases affecting animals,' the following regulations respecting rabies were established, to come into force at once:—

REGULATIONS RELATING TO RABIES.

By Order in Council dated August 10, 1905, in virtue of 'The Animal Contagious Diseases Act, 1903.'

1. No dog or other animal which is affected with or has been exposed to the infection of rabies, shall be permitted to run at large, or to come in contact with other animals.

2. Any veterinary inspector may declare to be an infected place within the meaning of 'The Animal Contagious Diseases Act, 1903,' any place or premises where the infection of rabies is known or suspected to exist.

3. Veterinary inspectors are hereby authorized to order the slaughter of any dog or other animal affected with rabies, or suspected of being so affected, and to order the disposition of the carcase of such animal.

4. Veterinary inspectors are hereby authorized to order dogs or other animals which have been exposed to the infection of rabies, to be detained, isolated or muzzled.

5. No dog or other animal, nor any part thereof, shall be removed out of an infected place without a license signed by an inspector.

6. Every yard, stable, or outhouse, or other place or premises, and every wagon, cart, carriage, car or other vehicle, and every vessel and every utensil or other thing infected or suspected of being infected with rabies, shall be thoroughly cleansed and disinfected by and at the expense of the owner or occupier in a manner satisfactory to a veterinary inspector.

7. On receiving the report of an inspector to the effect that rabies is known or suspected to exist in any locality, the Minister of Agriculture may order that all dogs, or other animals, within such an area as he may determine or describe, shall be detained, isolated or muzzled during such period as he may see fit.

By order in council of the 26th of August, 1905, in virtue of the provisions of section 5, chapter 41, 4-5 Edward VII., intituled 'An Act respecting the inspection and sale of seeds,' it was ordered that the number of seeds of the weeds named in sections 3 and 4 of the said Act that may be tolerated in any seeds without affecting their character as being, within the meaning of the said sections, free from the seeds of the said weeds, shall be as follows:—

(*a*) In the seeds of timothy, red clover, alsike and other grasses and clovers, not more than one to every 1,500 of said seeds.

(*b*) In the seeds of cereals and forage plants, not more than one per pound of said seeds.

Vide *Canada Gazette*, vol. xxxix., p. 474.

By order in council of the 22nd of January, 1906, schedules Nos. 1 and 2, for taking the census of Manitoba, Saskatchewan and Alberta, in 1906, as provided by chapter 5, 4-5 Edward VII., and the schedule for taking the census of manufactures of the Dominion in the same year were approved.

Vide *Canada Gazette*, vol. xxxix., p. 1847.

By order in council of the 16th of February, 1906, in virtue of the provisions of section 17, chapter 41, 4-5 Edward VII., intituled 'An Act respecting the inspection

and sale of seeds,' the Minister of Agriculture was authorized to make appointments of inspectors and other persons for the enforcement of the said Act.
Vide *Canada Gazette*, vol. xxxix., p. 1786.

By order in council of the 15th of May, 1906, a proclamation was ordered to issue for the taking of the census on June 24, 1906, in the provinces of Manitoba, Saskatchewan and Alberta.
Vide *Canada Gazette*, vol. xxxix., p. 2568.

By proclamation dated May 15, 1906, under the provisions of 'The Census Act,' 4-5 Edward VII., chapter 5, as amended by chapter 6 of the same session of parliament, and according to an order in council (dated May 15, 1906) fixing June 24, 1906, as the day of taking the census in the provinces of Manitoba, Saskatchewan and Alberta, the country was divided into census districts, forms and instructions were approved and directions were ordered to be observed, as set forth in full detail in the *Canada Gazette* of May 21, 1906.
Vide *Canada Gazette*, vol. xxxix., extra issue dated May 21, 1906.

By order in council of June 25, 1906, the resignation of Mr. F. W. Hodson, Live Stock Commissioner, was accepted, to date from June 30, 1906.

By order in council of July 20, 1906, the resignation of Dr. Guy Carleton Jones, assistant physician at the Halifax quarantine station, was accepted, to date from November 30, 1905.

By order in council of July 20, 1906, Joseph J. Doyle, M.D., was appointed assistant physician at the Halifax quarantine station, from December 1, 1905.

By order in council of July 23, 1906, Dr. J. G. Rutherford, the Veterinary Director General, assumed control of the Live Stock Branch, in addition to that of the Health of Animals, it being thought advisable and in the public interest to unite these branches under the control of one head, with the title Veterinary Director General and Live Stock Commissioner, from July 1, 1906.

By order in council of July 23, 1906, in virtue of the provisions of chapter 11, 3 Edward VII., intituled 'An Act respecting infectious or contagious diseases affecting animals,' the order in council approved by Your Excellency on July 10, 1905, was rescinded, and other regulations substituted therefor. (*See* appendix No. 16.)

By order in council of August 1, 1906, in virtue of the provisions of section 29, chapter 11, 3 Edward VII., the following regulations relating to anthrax were made and established:—

REGULATIONS RELATING TO ANTHRAX.

By Order in Council dated August 18, 1906, in virtue of 'The Animal Contagious Diseases Act, 1903.'

1. No animal which is affected with or has been exposed to anthrax shall be permitted to run at large or to come in contact with any animal not so affected or exposed.

2. Any veterinary inspector may declare to be an infected place within the meaning of the 'Animal Contagious Diseases Act, 1903,' any place or premises where the contagion of anthrax is known or suspected to exist.

3. No animal or any portion or product thereof shall be removed out of any place so declared to be an infected place without a license signed by an inspector.

4. Every veterinary inspector shall have full power to order animals affected, or suspected of being affected with anthrax to be collected for inspection, and, when necessary, to be detained and isolated or otherwise dealt with as may to him appear advisable, and no indemnity shall be allowed to the owner in case of damage arising out of or resulting from such actions.

5. The expenses of, and incidental to the collection, isolation, seizure, or otherwise dealing with animals for the purposes of these regulations shall be borne by the owners of the animals.

6. No animal or animals shall be allowed access to any place where anthrax exists, or has existed, unless by the authority of a veterinary inspector.

7. Carcasses of animals dying from anthrax, or suspected anthrax, must not be skinned, or cut in any way; such carcasses, together with all litter, excreta and other articles, which may have been in contact with them, must be dealt with in accordance with the orders of the veterinary inspector and in a manner satisfactory to him.

8. Premises on which animals affected with anthrax have been kept are to be dealt with at the expense of the owner, in a manner satisfactory to the veterinary inspector.

9. The Veterinary Director General may, from time to time, order the slaughter or other disposition of animals which are affected with or have been exposed to anthrax.

10. Every person who violates any provision of these regulations and every person who refuses or neglects to carry out any order of an inspector or other duly authorized person shall, for every such offence, incur a penalty not exceeding two hundred dollars.

By order in council of August 18, 1906, the invitation extended to the Government of Canada, by the Executive Council of the Irish International Exhibition of 1907, to be held in Dublin, was accepted. Preparations are, therefore, being made for Canada's participation in this event.

By order in council of September 11, 1906, it was deemed advisable and in the public interest that the order in council approved by Your Excellency, under date January 15, 1903, as amended by order in council under date March 30, 1904, by which nursery stock is permitted to enter Vancouver, in the province of British Columbia, from the United States, Japan and Australia from October 15 to August 1, should be further amended by changing the date 'October 15' to 'October 1,' thus making the time permissible to bring in nursery stock between October 1 and May 1.

By order in council of September 21, 1906, it was considered advisable and in the public interest to cancel section 66 of the order in council dated March 30, 1904, containing regulations relating to animals' quarantine, and to substitute the following therefor: 'Inspectors may, if they deem it advisable for purpose of identification, mark animals inspected by them. A certificate of inspection stating the name of the owner, the number, sex and class of animals in the consignment, and certifying to their freedom from contagious disease, will be furnished by the inspector, and must be produced to the collector of customs before embarkation.'

By order in council of January 14, 1907, the order in council containing regulations relating to animals' quarantine and health of animals approved by Your Excellency on March 30, 1904, was rescinded, and other regulations substituted therefor. (*See* appendix No. 15.)

By order in council of February 8, 1907, the control of the Cold Storage Branch was assumed by the dairy commissioner, Mr. J. A. Ruddick, and these two important branches are now administered by him with the title of Dairy and Cold Storage Commissioner.

By order in council of February 28, 1907, Mr. W. H. Fairfield was appointed superintendent, from August 1, 1907, of the new Experimental Farms station to be established in southern Alberta.

By order in council of February 28, 1907, Mr. Gladstone H. Hutton was appointed superintendent, from August 1, 1907, of the new Experimental Farms station to be established in northern Alberta.

By order in council of March 13, 1907, it was found necessary to amend the regulations approved by Your Excellency on March 3, 1906, relating to the preservation of health on public works, by adding the following subsection to section 5 of said regulations:—

'5*a*. Such government department or company shall keep displayed in a prominent place, or places, in each and every camp on any such work, one or more copies of extracts from these regulations as prepared and issued in card form for this purpose by the Department of Agriculture.'

Canada's participation in the Milan International Exhibition, held during the past fiscal year, was marked with great success, attracting much attention. A report of this exhibition by the commissioner, Mr. William Hutchison, will be found as an appendix hereto. (*See* appendix No. 18.)

I have also to report that Canada's participation in the New Zealand International Exhibition, held in Christchurch, during the past winter, was also a very great success. A full report of this exhibition will be found in my next annual report.

It is with regret I have to record the death of Mr. Louis D'Auray, on August 10, 1906. Mr. D'Auray had served faithfully in the department since 1872.

I have also to report the death of Mr. Ignace Napoleon Gravel, who died on February 13, 1907, and had been a faithful officer in the department since 1881.

I have also to report the death of J. A. Macdonald, M.D., inspecting physician at the Chatham quarantine station, New Brunswick, who died in December, 1906. Dr. Macdonald had been connected with my department since 1884.

The endeavour to improve the Canadian tobacco industry, referred to in my last two annual reports, has been continued, and I am pleased to be able to report that despite statements to the contrary it may be distinctly and positively asserted that Canadian tobacco possesses first-class qualities, and that the prospects of the tobacco industry in Canada are very bright.

Appended hereto is a report submitted by Mr. Charlon, the tobacco expert, for the twelve months ended March 31, 1907. (*See* appendix No. 17.)

II.—ARTS AND AGRICULTURE.

DAIRY AND COLD STORAGE COMMISSIONER'S BRANCH.

The Branch of the Dairy and Cold Storage Commissioner (formerly Dairy Commissioner's Branch) has assigned to it matters relating to dairying, the commerce in fruits, extension of markets for food products and cold storage.

The dairy and cold storage commissioner, who is in general charge of this branch, is assisted by experts in the various divisions.

Mr. J. C. Chapais, the assistant dairy commissioner, devotes his whole time to the province of Quebec, addressing agricultural, fruit and dairy meetings, lecturing at the St. Hyacinthe Dairy School and in connection with the various cheese factory and creamery syndicates in operation throughout the province, &c. Mr. Chapais' address is St. Denis (en bas) Quebec.

While this branch is charged with certain specific duties, such as the inspection of cargoes of perishable products as loaded on the steamers at Montreal and discharged at British ports, the inspection of iced car services, the administration of the Fruit Marks Act, the 'Butter Act, 1903,' the 'Dairy Products Act, 1893,' and the 'Cold Storage Act,' a large amount of the work undertaken by the commissioner and the officers under him is more or less irregular in character and rather difficult to define. Many agricultural meetings are attended during the year; a large technical correspondence is carried on with those who desire information on subjects relating to the work of the branch; special investigations are undertaken from time to time, and a considerable amount of demonstration work is carried on at the fall exhibitions and under other auspices.

PUBLICATIONS.

Since last report, the following bulletins of the dairy and cold storage commissioner's series have been prepared and published:—

No. 11.—General Instructions *re* Fruit Marks Act.

No. 12.—Cow Testing Associations.

No. 13.—Sweet Cream Butter.

No. 14.—Apparatus for determining the percentage of Fat and Water in Butter.

The Report of the Dominion Conference of Fruit Growers was edited and published, and also a report of the District of Bedford Dairymen's Association.

A monthly Fruit Crop Bulletin, compiled from information supplied to the Fruit Division by some 5,000 correspondents, representing every fruit district in Canada, was published from May to October as usual.

The report of the Dairy and Cold Storage Commissioner will be published as an appendix to this report, and will contain more of the details of the work of the branch as well as other information.

DAIRYING.

The past season has probably been the most satisfactory from the milk producer's standpoint of any in the history of the industry. The yield of milk was on the whole quite up to the average, while the price of cheese, for the season, was the highest ever received.

The manufacturers of cheese and butter have not shared in the general prosperity, because their expenses have increased very largely without any corresponding increase in their revenue. It is unfortunate that the owners of factories should find themselves in this position at a time when there is a demand for improvements in the curing of cheese, the preservation of butter, &c. I am glad to know that the patrons of factories in some sections are beginning to recognize the wisdom of paying a fair price for manufacturing, and have agreed to a substantial increase for 1907, on condition that certain improvements are carried out. When the patrons of cheese factories and creameries—the producers of the milk—come to realize how vitally they are interested in having the business conducted on the best possible lines, many of the difficulties and obstacles which now stand in the way of improvement will disappear entirely.

A very noticeable and satisfactory feature of the dairy situation at the present time, is the increased interest being taken in all matters of sanitation, both on the farm and at the factory.

Apart from the high prices prevailing for dairy produce, and especially for cheese, the most prominent feature of the export trade has been the strong consumptive demand at prices which would have been considered prohibitive a few years ago. The fact is, cheese at 12 to 13 cents per pound is not high-priced compared with the values of other food products.

This strong demand has had the effect of encouraging the export of very green cheese, and there have been some serious complaints on this score, which shippers would do well to take note of.

COOL CHEESE CURING.

The Dairy Division has been charged with the propaganda for the improvement of cheese curing, and the operation of four cool cheese curing rooms by the government for the past five years has been a part of the general scheme.

These cool curing rooms have illustrated the advantages of the system so effectively, that there is now a general movement among the cheese factories to provide cool curing facilities of their own. I have decided, therefore, that it is not necessary for my department to continue the operation of these curing rooms any longer. The one at Woodstock, Ont., and the one at Brockville, Ont., have been leased for a term of years to persons who will use them for the curing and storage of cheese. Negotia-

tions for the disposal of the other two, one at Cowansville, and the other at St. Hyacinthe, in the province of Quebec, are now under way.

The following letter received by the dairy and cold storage commissioner emphasizes the importance of 'cool cured' cheese to the Canadian cheese trade:—

'13 Greenwood Street,
'Manchester, December 18, 1906.

'Mr. J. W. Ruddick,
'Department of Agriculture.

'Dear Sir,—On going through a line of white and coloured cheese to-day, September made, all western goods, we wanted a few hundred boxes for a very particular buyer. We got him fixed up, but he was not altogether satisfied with the quality, and kept repeating that they were not up to our usual standard. On going to the coloured lots we picked 400 or 500 boxes without turning down a factory, and our buyer expressed the pleasure that it was to have cheese of this kind offered; every lot was as near perfection as you can get cheese.

'On going through the matter to try and find the difference, we at once saw that the coloured had been cured in a government cool curing room at Brockville, while the white had been cured in the ordinary way.

'If any of your farmers had been in our warehouse to-day they would have had an object lesson in the value and importance of having their cheese all done in the same way. In our minds it makes a very much bigger difference than people imagine, and if this way was adopted generally Canadian cheese would hold a very much higher place in the opinion of the trade than it does to-day.

'Yours faithfully,

'(Signed) WALL & CO., Limited.

'Manchester.'

Dominion of Canada—Exports of Dairy Products—Home Production.

BUTTER.

Year ended June 30.	Quantity.	Value.	To Great Britain.	To United States.	To France.	To Germany.	Other Foreign Countries.	B. N. A. Provinces.	British Indies.
	Lbs.	$	$	$	$	$	$	$	$
1868	10,649,733	1,698,042	534,707	1,015,702	.....	1,496	14,870	95,777	26,986
1880	18,535,362	3,058,069	2,756,064	111,158	.....	.....	24,710	163,290	2,647
1890	1,951,585	340,131	184,105	5,059	.....	.....	29,342	119,989	1,636
1891	3,768,101	602,175	440,060	10,054	.....	20,447	24,021	101,649	5,944
1892	5,736,696	1,056,058	877,455	6,038	.....	5,160	27,207	133,770	6,428
1893	7,036,013	1,296,814	1,118,614	7,539	.....	1,175	35,042	127,412	7,032
1894	5,534,621	1,095,588	936,422	6,048	1,125	.....	25,560	109,263	14,170
1895	3,650,258	697,476	536,797	5,365	.....	267	35,028	108,439	11,580
1896	5,889,241	1,052,089	893,053	2,729	.....	9,370	34,299	105,472	7,166
1897	11,453,351	2,089,173	1,912,389	6,233	.....	8,513	33,490	115,754	12,794
1898	11,253,787	2,046,686	1,915,550	3,738	.....	17,574	31,619	51,045	27,160
1899	20,139,195	3,700,873	3,526,007	3,984	.....	12,384	41,810	74,813	41,875
1900	25,259,737	5,122,156	4,947,000	5,044	.....	7,210	43,176	66,069	53,657
1901	16,335,528	3,295,663	3,142,353	5,839	.....	.....	39,675	44,986	62,810
1902	27,855,978	5,660,541	5,459,300	41,149	.....	101	36,109	47,066	71,816
1903	34,128,944	6,954,618	6,554,014	10,225	.....	13	198,381	69,017	112,968
1904	24,568,001	1,724,155	4,400,774	6,497	14	25,644	75,014	88,422	127,790
1905	31,764,303	5,930,379	5,568,999	70,580	14,440	.....	113,650	82,387	80,323
1906	34,031,525	7,075,539	6,802,003	33,965	4,155	.....	100,048	48,283	87,085
Nine months ended March 31, 1907.	18,078,508	4,011,609	3,805,925	3,539	.....	.....	86,316	56,516	59,313

CHEESE.

Year ended June 30.	Quantity.	Value.	To Great Britain.	To United States.	To France.	To Germany.	Other Foreign Countries.	B. N. A. Provinces.	British Indies.
	Lbs.	$	$	$	$	$	$	$	$
1868.....	6,141,570	620,543	548,574	68,784	.....	.....	891	1,594	340
1880.....	40,368,678	3,893,366	3,772,769	114,507	.....	.....	170	5,710	210
1890.....	94,260,187	9,372,212	9,349,731	6,425	.....	370	2,154	12,777	755
1891.....	106,202,140	9,508,800	9,481,373	13,485	.....	.....	1,954	9,104	3,884
1892.....	118,270,052	11,652,412	11,593,690	39,558	2	.....	2,124	12,942	4,091
1893.....	133,946,365	13,407,470	13,360,237	23,578	.....	.....	2,689	18,679	2,297
1894.....	154,977,480	15,488,191	15,439,198	9,552	.....	173	3,036	21,948	14,284
1895.....	146,004,650	14,253,002	14,220,505	5,058	.....	16	5,463	9,785	12,175
1896.....	164,689,123	13,956,571	13,924,672	10,359	299	.....	4,861	7,509	8,871
1897.....	164,220,699	14,676,239	14,645,850	4,486	94	24	5,365	11,954	8,457
1898.....	196,703,323	17,572,763	17,522,681	14,604	.....	1,428	6,889	12,784	14,377
1899.....	189,827,839	16,776,765	16,718,418	17,739	.....	.....	11,701	13,293	15,614
1900.....	185,984,430	19,856,324	19,812,670	4,836	.....	.....	8,774	16,651	13,393
1901.....	195,926,397	20,696,951	20,609,361	37,601	465	12	15,375	16,603	17,534
1902.....	200,946,401	19,686,281	19,620,239	12,038	.....	1,179	14,133	20,100	18,602
1903.....	229,099,925	24,712,943	24,620,004	7,779	.....	170	18,942	21,334	44,714
1904.....	233,980,716	24,184,566	24,099,004	5,386	44	.....	23,810	21,754	34,568
1905.....	215,733,259	20,300,500	20,174,211	14,182	700	364	39,696	35,171	36,176
1906.....	215,834,543	24,433,169	24,300,908	16,082	7,203	.....	52,455	30,992	25,529
Nine months ended March 31, 1907.	178,141,567	22,006,584	21,909,879	6,900	.....	54	38,337	37,748	13,666

TO PREVENT ADULTERATION OF DAIRY PRODUCTS.

A special officer has lately been detailed to enforce the provisions of the 'Butter Act, 1903,' and the 'Dairy Products Act, 1893.' These two Acts prohibit the adulteration of butter in any form, prohibit the manufacture of 'process' or 'renovated' butter or any butter substitute, prohibit the marking of 'dairy' butter as 'creamery,' and provide for the proper marking of skim milk cheese, &c., &c.

I am pleased to say that the Canadian dairy trade has been remarkably free from illegal practices of the kind mentioned, but I am acting on the plan that prevention is better than cure.

OFFICIAL REFEREE OF BUTTER AND CHEESE AT MONTREAL.

An officer of the Dairy Division will be stationed at Montreal to act as referee in case of dispute between buyers and sellers of cheese and butter. The referee will act only on the request of both parties to the dispute. A report of his examination will be given to both buyer and seller.

DAIRYING IN THE NORTHWEST PROVINCES.

The creamery industry is making good progress in northern Alberta. There were reported in operation during the season of 1906, 45 creameries and 4 cheese factories. I am informed that 18 of the creameries are under the control of the Department of Agriculture for Alberta. There were six creameries and 1 cheese factory in Saskatchewan in 1906.

COW TESTING ASSOCIATIONS.

This work which is being organized under the direction of the Dairy and Cold Storage commissioner, is making very satisfactory progress. I have authorized the commissioner to supply the necessary forms for recording the weights of milk, and to provide men to do the testing free of charge, wherever twenty or more dairymen form themselves into an association, provide their own outfits, consisting of sample bottles and scales, and where the association agrees to provide a place in which the testing may be done without cost to the department. One man can do the testing for five or six associations. The number of associations already organized in the different provinces is as follows: Ontario, 19; Quebec, 25; Nova Scotia, 2; Prince Edward Island, 1; British Columbia, 4. In addition to these 51 regularly organized associations, there are hundreds of individual farmers who have been induced to keep records and test their own herds.

I am pleased to learn that the farmers of Canada are beginning to realize the great possibilities which lie in this direction. The records which have been obtained already show wide variations in the yield of milk from cows of the same breed in one herd, in the production of different herds in the same locality, and in general average of different sections of the country. There is no reason why the yield of milk from all herds may not be brought up to the standard of the best by a careful study of the individual cow and a systematic course of selection and breeding. The experience of many farmers in Canada and in other countries proves how easily such improvement may be made.

The first necessary step is to acquire an accurate knowledge of the production of each cow in the herd. This can only be secured by regular weighing and testing of the milk of each animal.

FRUIT.

THE FRUIT MARKS ACT.

The administration of the Fruit Marks Act occupies a good part of the time and attention of the Fruit Division during the active shipping season. The staff of inspectors was increased for the season of 1906-7 by the appointment of four new men, and the number of packages inspected was largely in excess of any previous year. I am pleased to report, however, that although the inspection was more severe, and covered a larger quantity of fruit, the violations of the Act showed considerable decrease. The number of prosecutions for 1906-7 was 37, against 48 convictions in 1905-6. Some of the fruit inspectors are employed during a part of the year in attendance at orchard meetings, giving demonstrations in spraying, pruning and grafting, &c. A great deal of valuable information has been imparted in that way.

FRUIT CROP REPORT.

The publication of a monthly fruit crop report appears to have met favour with the fruit trade throughout the Dominion, and its publication will be continued. Reli-

able information concerning the fruit crop prospects is of value to both grower and dealer, and helps to prevent manipulation of the market by means of false reports.

DEMONSTRATIONS IN BOX PACKING.

The results of the demonstrations in box packing which were given in 1905, proved so satisfactory that it was deemed advisable to continue the work another season. I am informed that there is a very marked improvement in the style and effectiveness of box packing since these demonstrations were first undertaken.

A bulletin on the subject is now in course of preparation, and it will be distributed as soon as it is received from the printer.

CANADIAN APPLES IN GREAT BRITAIN.

Very encouraging reports are being received from Great Britain concerning the trade in Canadian apples. Prices for Canadian apples have ruled from two to five shillings per barrel higher than for the same varieties from other countries. Greater confidence in the packing and grading has helped to bring about this satisfactory result.

The outlook for the Canadian orchardist seems to be encouraging.

CANADIAN APPLES IN SOUTH AFRICA.

Some shipments of apples to South Africa are reported as having turned out very well, and a promising trade appears to have been opened in that direction. The Canadian commercial agent in South Africa reporting on one of these shipments uses the following words:—

'A cargo of apples by the steamship *Melville* from Montreal arrived here on December 4, and came to hand in excellent condition. The fruit met with a very ready sale at highly remunerative prices for the importers.'

COLD STORAGE.

ICED BUTTER CAR SERVICE.

The arrangement with the railways for the operation of an iced butter car service has been continued over fifty-seven different routes to Montreal during the season of 1906, effective May 7 to October 20. The service is now extended so as to reach practically every creamery which ships butter for export. My department will continue to guarantee two-thirds of the earnings of a minimum car at carload tariff rates plus $4 for icing, the shippers to be charged the regular rate for shipment of butter in any quantity from the different stations along line over which the car is operated.

ICED CHEESE CAR SERVICE.

The iced cheese cars are provided on a somewhat different basis. The department agrees to pay for the icing charges to the extent of $5 per car for a limited number of

cars per week on the various lines for the shipment of cheese in carloads. These cars do not pick up way shipments, but will only be supplied by railways, on demand of shippers, for a carload at one station. This arrangement was effective July 2 to September 8, and 1,161 cars were supplied during that period.

ICED CARS FOR FRUIT.

For the first time, in 1906, the Department of Agriculture agreed to pay icing charges to the extent of $5 per car for the shipment of apples in carloads consigned to Montreal and Quebec for export. This arrangement was effective August 1 to September 30, and will likely be continued another season. The records show that 102 cars of fruit were shipped under this arrangement.

COLD STORAGE AT CREAMERIES.

The plan of giving a bonus of $100 to every creamery which builds a cold storage according to plans and specifications supplied by the Dairy and Cold Storage commissioner was continued for the year 1906. A total of 56 applications were received for this bonus, but out of this number only 26 applications were approved of for payment, the others having failed to comply with the necessary conditions.

The bonus is paid only once to a creamery in any locality. Should the creamery building be burned or a new one erected to replace the old one, the bonus is not paid a second time.

COLD STORAGE ON STEAMSHIPS.

There is now ample cold storage accommodation for all classes of perishable produce offered for shipment across the Atlantic from Canadian ports. Several new steamers with modern cold storage equipment were added to the Montreal and Quebec services during the past year.

THERMOGRAPHS IN STEAMSHIPS.

A factor that has contributed very largely towards the marked improvement that has been shown each year in our ocean cold storage facilities is the use of the self-registering thermometer, called the thermograph. The department first made use of these instruments in the season of 1900 when thirty (30) thermographs were purchased. Each year since the number has been increased, so that in the season 1906-7 the department had one hundred and eighty-two (182) thermographs in commission, using them not only in steamship chambers and holds but in refrigerator cars and in creamery cold storages as well. In steamships alone five hundred and fifteen (515) records of temperatures were obtained, namely, four hundred and sixty-one (461) records in steamers sailing from Montreal and Quebec, and fifty-four (54) records in steamers sailing from Halifax.

The thermographs, which are encased in locked boxes perforated so as to admit the air, are stowed with perishable cargo in refrigerator chambers, cooled air chambers and in the ordinary holds. When the ship reaches port in Great Britain, the cargo

inspector for this department removes the thermographs just as soon as they become accessible. He takes off the charts, which are numbered to correspond with the numbers of the thermographs, and mails them at once to the Chief of the Markets Division at Ottawa, together with a memo. giving the name of the vessels, date she arrived, and time thermographs were removed. When the charts are received here such particulars as the steamer's name, sailing date, port of destination, date of arrival, date thermograph was placed, where it was placed in the ship, kind of produce it was stowed with, &c., are written on the face of each chart, and six photographic copies are made, two of which are retained in the office here, one sent to the Montreal Board of Trade, one to the steamship agents, one to the chief engineer of the steamer and one to our Montreal office.

These records indicate every variation of temperature each day of the voyage, and are of great assistance to the engineer in charge of the ship's refrigerating machinery, who studies them carefully, and, if any unusual variation is shown, endeavours to find out the cause so that the same thing may not occur on succeeding voyages. The engineers are, therefore, very keen to get these records, and as soon as they reach Montreal on each return voyage they at once look for their copies of the temperature records secured on the outward voyage.

SUBSIDIES FOR COLD STORAGE WAREHOUSES.

With a view of encouraging the erection of public cold storage warehouses, in districts not now provided with such facilities, parliament was asked, during last session, to authorize the payment of certain subsidies to persons erecting such warehouses equipped with mechanical refrigeration. The requirements of trade in certain localities have made cold storage an absolute necessity, and in such places the revenue is sure enough to make the investment a fairly safe one; but there are many districts in Canada where some inducement is required to secure the investment of the capital necessary to equip and maintain a cold storage warehouse.

There is no intention of giving a subsidy to any business which will go into direct competition with others already established. While it may at first glance seem a little unfair to assist the new enterprises, even if non-competitive, it must be borne in mind that the existing cold storage warehouses occupy the choice locations, and for that reason some inducement seems to be necessary if similar facilities are to be provided in other localities. The full text of the Cold Storage Act is as follows:—

THE COLD STORAGE ACT.

An Act to encourage the establishment of Cold Storage Warehouses for the preservation of perishable Food Products.

His Majesty, by and with the advice and consent of the Senate and House of Commons of Canada, enacts as follows:—

1. This Act may be cited as *The Cold Storage Act.*

2. The Governor in Council may enter into contracts with any persons for the construction, equipment and maintenance in good and efficient working order, of

public cold storage warehouses equipped with mechanical refrigeration, in Canada, and suitable for the preservation of all food products.

3. The location, plans and specification of every such warehouse, its equipment, and the amount to be expended thereon, shall be subject to the approval of the Governor in Council.

4. The Governor in Council may, out of any moneys appropriated by parliament for the purpose, grant towards the construction and equipment of any such warehouse a subsidy not exceeding in the whole thirty per cent of the amount expended or approved of in such construction and equipment, and payable in instalments as follows: upon the warehouse being completed and cold storage at suitable temperatures being provided therein, all to the satisfaction of the Minister of Agriculture, a sum not exceeding fifteen per cent of the amount so expended; and at the end of the first year thereafter seven per cent of the said amount, at the end of the second year thereafter four per cent of the said amount, and at the end of each of the two next succeeding years two per cent of the said amount: provided the warehouse is maintained and operated to the satisfaction of the Minister of Agriculture.

5. The Minister of Agriculture may refuse to pay any part of the said subsidy if, in his opinion, the operation of the warehouse has not been of such a character as to provide for the proper preservation of such products as may be stored therein.

6. The Minister of Agriculture may order, and cause to be maintained, an inspection and supervision of the sanitary conditions, maintenance and operation of such warehouses, and may regulate and control the temperatures to be maintained therein in accordance with the regulations to be made as hereinafter provided.

7. The rates and tolls to be charged for storage in such warehouses shall be subject to the approval of the Governor in Council.

8. For the effective carrying out of the provisions of this Act the Minister of Agriculture may appoint inspectors, who shall have access to all parts of such warehouses at all times.

9. The Governor in Council may make such regulations as he considers necessary in order to secure the efficient enforcement and operation of this Act; and he may by such regulations impose penalties not exceeding fifty dollars on any person offending against them; and the regulations so made shall be in force from the date of their publication in *The Canada Gazette*, or from such other date as is specified in the proclamation in that behalf.

10. Chapter 7 of the statutes of 1897, intituled *An Act respecting Cold Storage on Steamships from Canada to the United Kingdom and in certain cities in Canada*, is repealed.

EXTENSION OF MARKETS.

During the past year the Extension of Markets Division has been principally engaged in looking after the transportation facilities for our export food products, with, I am pleased to be able to say, gratifying results. During the summer months a closer inspection was maintained over the refrigerator car services for butter, cheese and fruit, and, as a consequence, these services were operated in a more satisfactory manner than ever before. Careful attention was also paid to the handling of our food products received at the loading ports, and rough work was as far as possible suppressed. The loading of these products in the steamers, the ventilation of the holds in which they were stowed, the temperatures maintained in the cooled air and refri-

gerator chambers, the unloading at ports of discharge in Great Britain, &c., were carefully noted by a staff of trained men, and any defects in the service or complaints *re* handling or stowage were promptly brought to the attention of the steamship companies concerned. Every cargo of perishable products, whether large or small, carried from the ports of Montreal and Quebec (and in the fall and winter months from St. John and Halifax) had an inspector in attendance while loading was going on, and also at the ports in Great Britain while these cargoes were being unloaded.

In addition to the work outlined above, the Markets Division has had considerable correspondence with firms in Great Britain and other European countries seeking to establish business relations with shippers of Canadian farm and food products. In each case the desired information was duly furnished, and at the same time, the inquiries were brought to the notice of the interested parties in this country.

By my direction, the Chief of the Markets Division was engaged, from June 13 to August 16, in an investigation of the meat-packing establishments in Canada, in order to ascertain the conditions under which this industry is carried on. The report submitted, I am pleased to say, showed that the meat-packing industry in Canada is on the whole free from objectionable practices, and is conducted in a wholesome and cleanly manner.

CARGO INSPECTION AT MONTREAL AND QUEBEC.

During the greater part of the season of navigation seven cargo inspectors were employed at Montreal and Quebec, and furnished reports on each cargo of foodstuffs shipped from these ports. Although these cargo inspectors have no legislation behind them, and are not, therefore, in a position to order this or that to be done, their work, nevertheless, is carried on with the sanction and approval of the steamship companies, who recognize that, in the long run, it is for the good of their business as well as for the good of the country at large. Occasionally some slight friction occurs, but in the main the relations existing between the inspectors and the dock superintendents and other steamship officials with whom the inspectors are in daily contact, are entirely harmonious.

The greatest difficulty our inspectors have now to contend with is rough handling by the teamsters who draw the butter, cheese, apples, &c., from the railway cars or warehouses to the docks. These men are only anxious to get rid of their loads as quickly as possible, and unless they are continually watched they will unload boxes of butter or cheese or barrels of apples with as much unconcern and lack of care as if they were handling pig iron. Our inspectors check them as much as possible, but they cannot always be on hand when the teamsters are unloading, as their duties frequently call them to other parts of the shed or into the holds or chambers in the ship. This season, however, the inspectors have been instructed to pay particular attention to this phase of their work.

STEAMSHIP COLD STORAGE SERVICES FOR BUTTER.

During the season of navigation of 1906, the cargo inspectors at Montreal tested the temperatures of 1,751 packages of butter as these were being loaded into the

steamers. After taking the temperatures, each package was marked so as to enable the inspector at the port of discharge to get the temperature of the same package as soon as it was unloaded from the steamer. The temperatures of each have been averaged for the season, and the results are given in the report of the Dairy and Cold Storage Commissioner's Branch for the year ended March 31, 1907.

On the whole, the cold storage services for butter provided in 1906 by the steamship lines plying between Montreal and the ports in Great Britain were eminently satisfactory, and amply justify the boast that as an all around proposition the ocean cold storage service between Canada and the Motherland is now the best in the world.

INSPECTION OF ICED CAR SERVICES FOR BUTTER, SEASON 1906.

The special iced car service for butter operated by the different railway companies under an arrangement with this department was commenced on May 7 and closed on October 21, cars being operated over sixty-one different routes. This was a considerable extension in the service compared with 1905, when the number of routes was fifty-one. Five inspectors were employed during the season as follows: Two at Montreal, two travelling over the iced car routes in Quebec, and one over the routes in Ontario. The duties of the inspectors were to report the conditions under which the butter was hauled from the creameries to the railway stations, the temperature of the butter when loaded into the cars, the condition in which they found the cars, and whether they were well iced or not. The inspectors at Montreal examined the butter arriving in the iced cars and reported the temperature and condition of the butter, the condition of the cars, quantity of ice remaining in the bunkers, &c. They paid particular attention to the packages that had been tested and marked at the shipping points by the travelling inspectors, making a note of the temperatures as soon as these packages were unloaded from the cars. Full particulars of these temperatures will be found in the annual report of the Dairy and Cold Storage Commissioner's Branch.

SEED COMMISSIONER'S BRANCH.

The operations of this branch of my department were started seven years ago. It is gratifying to know that they have been well and widely appreciated by both farmers and seed merchants. The work has rapidly increased, and during the past year has continued largely educational. More than 20,000,000 acres of our agricultural lands are now under field crops. The average annual yields, and the quality of those crops, although fairly satisfactory, may be substantially increased and improved by the application of better practices in farming, in which the production and use of seed grain and other seeds are important factors. The results of research and experimentation with farm crops make clear the advantages that are to be derived from the use of fully matured, sound and selected seed in increased yield and improved quality of all kinds of crops. The growing and selecting of those seeds is a special industry in farming deserving of much encouragement.

The great bulk of our field crop seeds are homegrown. Grass, Indian corn and root crop seeds are the principal field crop seeds imported into Canada. Alsike and

red clover seeds are largely exported. A comparatively small proportion of the seed grain used by farmers enters into commerce. The trade in seeds consists chiefly in the distribution and sale of grasses, clovers, ensilage corn, root crop and garden seeds.

Genuineness of type and variety are essential factors in the quality of most farm seeds, a definite knowledge of which can be obtained only from careful inspection of the crops which produce them. In obtaining supplies from seed merchants, farmers and gardeners must depend largely on the ability and integrity of those from whom they purchase. They may have such seeds tested for purity from weed seeds or percentage of vitality, free of charge, by sending a small sample to the seed laboratory in my department.

THE SEED CROP OF 1906.

The acreage of land under cereal crops grown especially for the purpose of seed was never larger in Canada than last year. The plans adopted by this branch to encourage farmers to set aside ten acres or more of their best and cleanest land, on which to grow pure seed grain and allow that grain to become fully matured before harvesting, have met with a great deal of success. Large quantities of excellent grain were last year carefully harvested and preserved for seeding.

With the exception of red clover, the grass and clover seed crop of 1906 was of a good average yield, and of a quality better than in former years. Perhaps on account of the application of the Seed Control Act, larger areas of clean land were devoted to the growing of clover seeds; their production on land foul with weeds has been discouraged. The 1906 crop of red clover seed was a partial failure due to winter killing and the ravages of the clover seed midge, consequently large quantities of Chilian and English grown seed are this year being imported. With the importation of such seed there is always danger of the introduction of new species of pernicious weeds. Some benefits will, however, doubtless accrue from this importation of red clover seed, since the type of clover plant grown in the countries from which the seed is imported is thought to be better than that grown in Canada.

Much attention has been given during the past few years to the production of seed corn of types suitable for ensilage purposes throughout the dairy districts where corn is not grown for the purpose of seed. In this work the operations of the Seed Branch have been directed chiefly in the corn-growing districts in the province of Ontario. The difficulty in past years has been largely that of maintaining purity of type and variety and in preserving the vitality of the seed by proper storage.

Much loss has been caused in the eastern provinces of Canada, by an insidious disease in the potato crop, commonly known as the potato blight. This disease affects the potato top and destroys the plant's vitality before it is naturally matured, thus rendering the product less palatable as a food in addition to greatly decreasing the yield. To lessen this difficulty, educational work has been undertaken, looking to the introduction and selection of disease-resistant types and strains of potatoes. Enough has been done in an experimental way to firmly establish the correctness of this plan. It is intended, as far as possible, to secure the general application of the practice throughout the districts where the blight is causing serious injury.

The limited control of the trade in certain agricultural seeds, through the application of the Seed Control Act, has occupied the careful attention of the officers of the Seed Branch. The purpose of the Act, in the main, is to supplement educational work, by providing the means so that purchasers of seeds may buy intelligently, and protect themselves against the carelessness or designs of unscrupulous seed vendors. The evil connected with the seed trade that is principally dealt with in the Act is the distribution of the seeds of pernicious weeds. The provisions of the Act are necessarily somewhat technical, and its administration has been largely directed with a view to secure among seed vendors and farmers a clearer understanding of its provisions and a better appreciation of its objects. The work of seed inspection under the Act has been proceeded with vigorously, and has had a marked influence in improving the quality of seed grain and of grass and clover seeds offered in the retail trade.

It is gratifying to find, from the data compiled in the seed laboratory during the last five years, that there has been a marked improvement in the condition of the seed trade throughout Canada. There can be no doubt that this improvement has been brought about largely through the educational work instituted by my department, which has led to a rapidly increasing demand on the part of farmers for pure seed grain and other seeds of the best quality. The progress that has been made in improving the quality of the grass and clover seed produced has been less rapid, because of the expense for the labour necessary to keep weeds under control once they have become established.

WEED SEED COLLECTIONS.

With a view to enable merchants, in the conduct of their business as seed vendors, to purchase their supplies intelligently and protect their customers against the seeds of pernicious weeds, authentic collections of weed seeds are prepared in the seed laboratory, for distribution, at the nominal price of $2, to seed merchants and agricultural institutions. With one of these collections in his possession, a seed merchant is able to identify the noxious weed seeds in the seed he may purchase for sale. In all, 353 of these collections have been supplied to seed merchants and agricultural institutions, of which 125 were sold to seed merchants during the last twelve months.

PUBLICATIONS.

Since the work of testing seeds for farmers and seed merchants was undertaken and the seed laboratory established, many applications have been received from farmers and others for a bulletin which would contain illustrations of the weeds, the seeds of which were reported to be present in the samples sent for test. There are many kinds of weeds in Canada, but comparatively few species of them are to be found in any one locality. As a rule, it is not until new kinds of weeds become well established on their lands that farmers have an accurate knowledge of their nature. They then have of necessity to acquire a knowledge of effective methods of combating them. It was to provide this information and the means to identify noxious weeds that I authorized the preparation of a bulletin on 'Farm Weeds.' This bulletin has been prepared under the immediate direction of the seed commissioner, and is now about ready for distribution. It contains accurate reproductions of water-colour drawings of fifty-one of the

worst Canadian weeds and their seeds. Twenty-five thousand copies of the bulletin have been ordered. It is my intention to have them equitably distributed, free of charge on personal application, for use as a reference book in the libraries of farm homes and rural schools.

A timely bulletin on the stinking smut of wheat, containing information as to methods of treating seed wheat to destroy the smut, was issued and distributed during February last. This bulletin was made specially applicable to the conditions of the wheat-growing sections of the western provinces.

A bulletin was issued containing a list of seed vendors who had violated the provisions of the Seed Control Act during the past year; also a circular containing information about the testing of seeds and the condition of the seed trade.

A special bulletin, giving the results of competitions in standing fields of seed grain that were organized and conducted during the past year in the three western provinces, was prepared and distributed throughout the provinces of Manitoba, Saskatchewan and Alberta.

ENCOURAGEMENT IN SEED GROWING.

The Seed Branch has continued to co-operate with the Canadian Seed Growers' Association, by having each of the farmers who make a speciality of growing and selecting seed visited at least once a year, for the purpose of inspecting their operations and of giving expert instruction in the matter of growing and selecting seeds of the various kinds of crops; also with the provincial departments of agriculture in instituting and conducting summer meetings of seed growers, which were held during the months of June and July at the time when weed and other plant growth was most in evidence.

In the western provinces competitions in standing fields of seed grain, of not less than ten acres, were organized and conducted under the auspices of the local agricultural societies. For these competitions expert judges were provided by my department. In all, forty agricultural societies in the provinces of Manitoba, Saskatchewan and Alberta availed themselves of the services which my officers were able to render them, and of the generous support of the provincial departments for Saskatchewan and Alberta, which provided money grants for prizes.

The interest that has been shown by local agricultural organizations in all parts of Canada in the matter of holding annual spring seed fairs has materially increased. In all, sixty-eight have been held during the past year, which my department was able to render assistance to in advertising, providing expert judges and lecturers, and by other means. With some few exceptions, all of the seed fairs that have been organized have continued from year to year, and have materially increased in interest to the farmers and in benefit to the community where they are held. In almost every instance there has been a notable improvement in the quality of the seed grain and other seeds that have been brought out and exhibited for sale.

The Seed Branch is so organized that experts in seed growing and inspection are provided in each of the various districts or provinces to carry out the details

of the general work of the branch. These district superintendents give their whole attention to the work in the districts assigned to them.

SEED LABORATORY.

Six thousand six hundred and seventy-six samples have been tested in the seed laboratory for purity or germination or for both during the past year. These samples were for the most part received during the fall of 1906 and the spring of 1907 from seed merchants and farmers. The number of samples of seeds sent in for test was somewhat lessened by a circular on seed testing issued by the seed commissioner to farmers and seed merchants, calling their attention to the fact that:—

'While the seed laboratory at Ottawa is equipped with the best modern apparatus for seed testing, and a staff is maintained during the busy season of the seed trade sufficient to make from 150 to 200 tests per day, it is necessary to have the work conducted under regulations, so that equitable service may be rendered to all concerned. In general, prompt attention will be given to the first fifty samples sent in for test from wholesale seed houses and to the first ten samples sent in for test by retail seed merchants.

'Requests should not be made for germination tests of seeds—particularly of timothy, alsike and red clover seeds—unless the information is really needed. Germination tests may not be made of timothy, alsike or red clover seeds, when the purity tests show that they will not grade No. 1, as provided in section 4 of the Seed Control Act, unless the seed shows evidence of being damaged or otherwise has the appearance of being of low vitality. It is quite well known that these, as well as many other kinds of seeds when fresh and of good healthy appearance, can be relied upon in respect to their germinating qualities. This request is made of seed merchants in order that the staff in the seed laboratory may be better enabled to render prompt and efficient service to all who desire to have seeds tested during the busy season of the seed trade, in supplying information that is needed by them in the conduct of their business as seed vendors.'

The information given in the reports issued from the seed laboratory seems to have been better appreciated by the sender of the sample than heretofore.

The samples tested have been divided into three classes: 1st, those tested for seed merchants and farmers; 2nd, samples tested under the Seed Control Act; 3rd, samples tested for the purpose of investigation. The following table gives a summary of the kinds of seeds tested for farmers and seed merchants, and shows the provinces or districts from which they were received:—

Name of Seed.	Maritime Provinces.	Quebec.	Ontario.	Western Provinces.	Foreign.	Total.
Timothy	49	184	240	11	17	501
Alsike	17	102	267	.....	1	417
Red clover	32	262	507	1	1	803
White clover	4	49	5	.....	.....	58
Alfalfa	.....	.....	15	1	.....	16
Mixtures of clover and grasses	2	5	14	.....	.....	21
Grasses	1	.....	7	11	2	21
Cereals	6	27	60	38	.....	131
Roots and vegetables	2	5	324	93	.....	424
Flowers	.....	.....	25	192	.....	217
Other kinds	1	.....	21	3	.....	25
Total	144	634	1,485	350	21	2,634

Under 'grasses' are included Canadian and Kentucky blue grass, orchard grass, and fescue. 'Cereals' include wheat, oats, barley, rye, buckwheat and corn. 'Other kinds' of seeds include vetches, tobacco, and flax.

The seed laboratory which was established at Calgary at the commencement of the present calendar year has greatly reduced the number of samples sent to Ottawa from the western provinces. The work of seed testing conducted at Calgary is under identical regulations with those which obtain at Ottawa, and the reports are issued on the same forms. The reduction in the work that has followed the establishment of the seed laboratory at Calgary has materially lessened the pressure of work in the central laboratory at Ottawa, and in that way has rendered my staff at both laboratories better able to render prompt and efficient service. Nearly all reports on seed sent in for purity test have been issued within three days of their delivery at the office of the seed commissioner.

Out of the total number of samples received for test, more than seventy species of more or less noxious weed seeds were found. The species of weed seeds that are found to predominate in cereals, grasses and clovers are: Catchfly, Curled dock, Ribgrass, False flax, Canada thistle, Ragweed, Foxtail, Sorrel, Lamb's quarters, Chickweed, Cinquefoil, Black medick, Wild oats, Purple cockle, Cow cockle.

A few species of weeds, new in Canada, have been introduced during the past year in imported clover seeds. These, however, may not be harmful in our climate.

SAMPLES TAKEN UNDER THE SEED CONTROL ACT.

Sixty-one samples of seeds were sent in for official test by my inspectors who operate under the Seed Control Act. They were as follows:—

	Timothy.	Alsike.	Red clover.	Mixtures.	Cereals.	Total.
Ontario	1	2	9	3	10	5
Quebec	3	.....	3	2	17	25
New Brunswick	.....	1	5	1	.....	7
Nova Scotia	2	.....	2	.....	.....	4
Total	6	3	19	6	27	61

Most of these official samples were taken from seeds that were exposed for sale by seed merchants. They were tested in the seed laboratory according to prescribed regulations, and during the first year, in cases of violation, letters of warning were sent to the seed vendors who had exposed them for sale.

INVESTIGATION WORK.

Investigation work in the seed laboratory during the past year has consisted in part in making tests to determine the proportion of living weed seeds in samples of representative soils that were taken from various places after being exposed to different systems of cultivation. This work is being continued, and, it is expected, will be fruitful of interesting and instructive results. The immense quantity of noxious

weed seeds contained in some of the samples of soils that were taken from weed infested lands is quite sufficient to produce luxurious crops of weeds for many years to come. The results obtained from this investigation work will have a direct bearing on the effectiveness of the different methods of cultivation to suppress weed growth.

Further investigation has been continued with a view to secure more definite information regarding the actual condition of the supply of grass and clover seeds, and more than 3,000 samples of timothy, alsike and red clover seeds, each sample representing an individual farmer's lot, were obtained through the kindness of the Wm. Rennie Seed Company, Toronto. Less than four per cent of that total number were entirely free from weed seeds, and only 16½ per cent of them were entirely free from the seeds of the weeds named in the Seed Control Act. More than 34 per cent of the samples contained Catchfly; 39 per cent contained Canada thistle; 44 per cent Curled dock, and 20 per cent, Ribgrass. All the samples tested were procured from the clover seed producing districts in the province of Ontario. The results of this work make more than clear the need for keeping the individual farmer's lots of grass and clover seeds separate in the case of all those that are transported from points of production to the large cleaning plants, and then allowing them to be mixed only after being graded as to their weed seed impurities.

In addition to the samples of weeds sent in for purity and germination tests, a large number of samples of weed seeds have been sent in for identification by farmers and others. The information asked for was promptly given.

The large collection of weed and economic seeds that is being compiled for reference in the seed laboratory now contains more than 800 authentic specimens of seeds that have been collected during the past two years. It is intended to make this collection a standard seed herbarium for Canada. Many of the specimens are obtained by exchange with foreign seed control stations. Such a collection of seeds is almost indispensable in a seed laboratory, where seeds are to be tested that have been imported from foreign countries.

Considerable time has also been given to the preparation of smaller reference collections containing 100 specimens for distribution to seed merchants and agricultural institutions. The nominal price of $2 is charged for this collection.

The technical work in connection with seed testing in the seed laboratory has been modified and improved in different ways, so that the work may be done with the greatest dispatch and in a way to insure accuracy. The methods of germinating some of the kinds of seeds that are most difficult to manage are modified from time to time in accordance with the progress made with research work in our own laboratory and in the seed laboratories of Europe and the United States.

The staff in the seed laboratory now consists of an expert in charge of the technical work and ten assistants, six of whom are employed exclusively at doing purity test work, three at germination work and one at clerical work.

The increase in the number of samples tested in the seed laboratory has necessitated the purchase of two new standard germinators, an additional balance and some other minor accessories.

THE MARITIME PROVINCES.

For the purpose of the work of the Seed Branch, the provinces of New Brunswick, Nova Scotia and Prince Edward Island are included in one district. The headquarters of the district officer are at Truro, N.S. During the past year he has continued the work of seed inspection, under the Seed Control Act, visiting farmers who make a specialty of seed growing, addressing farmers' meetings, and assisting to organize and conduct annual seed fairs. In New Brunswick and Nova Scotia more than in any of the other provinces, seed grain, particularly seed oats, has entered into the commerce of agricultural seeds, the great bulk of them being imported from Ontario. It is satisfactory to know that, as a result of persistent agricultural educational work, more attention is being paid to the growing and selecting of seed grain in those provinces than heretofore. Very little seed grain is imported by the province of Prince Edward Island. In fact, the cereal grain produced in that province is not excelled, in point of purity and plumpness, anywhere in Canada.

A very small proportion of the grass and clover seed used in these Maritime Provinces is home-grown. The quality of these seeds imported in previous years was inferior, taking them as a whole. The trade has been largely in the hands of local wholesale merchants, whose main business was of an entirely different character and who had not a thorough knowledge of seeds. In consequence, competition in the trade had been too largely restricted to prices. An earnest effort has been made during the past year to correct these evils of the seed trade, and with good success. Perhaps never before in the history of the Maritime Provinces has the quality of the seed grain and grass and clover seeds been so good as that offered in the retail trade last year.

In co-operation with the provincial departments, a series of summer meetings was held in each of the three provinces, at which the main questions discussed were, 'Noxious weeds and how to eradicate them,' 'The growing and selecting of seed grain,' and 'The control of noxious insects and fungous diseases of farm crops.' These meetings proved popular and especially instructive to farmers. They were able to bring to the meetings specimens of injurious weeds, insects or fungous diseases and have them identified and the methods of eradicating them discussed. Spring seed fairs were successfully held again during the year at Charlottetown, Truro, Antigonish, Berwick, Chatham, Sussex and Woodstock, in connection with which lectures were given by experts provided by my department. Each of these seed fairs received a special grant from the provincial departments to apply as prizes.

A grant of one hundred and fifty dollars was made to the management of the Maritime Winter Fair, at Amherst, N.S., to apply towards the expenses of establishing and maintaining a seed department for the benefit of the three Maritime Provinces. This department of the Maritime Winter Fair has proved to be an interesting and instructive one, and it is hoped that it will be continued and enlarged.

PROVINCE OF QUEBEC.

In the province of Quebec the work of seed inspection is largely done during the months of April and May. The reports of seed inspection for this district show that 100 towns and villages were visited, and more than 900 different lots of seed grain and

grass and clover seeds were inspected. The data compiled by the inspector would indicate that about ten per cent of the seed on the market in the province of Quebec would grade No. 1, about three per cent of it was condemned as being unfit for seeding purposes, and fully twenty per cent of a quality only sufficiently good to pass the minimum standard fixed in the Seed Control Act.

Spring seed fairs were conducted again during the past year at St. Hyacinthe, Sherbrooke, Three Rivers, St. Romuald and Rimouski. With the exception perhaps of that at Sherbrooke, the seed fairs organized in the province of Quebec have proved to be popular and specially helpful to the farmers, and requests have already been made for assistance in organizing seed fairs at other central points. The material exhibited last spring was better in quality than in any previous year. As in other provinces, they are supported by a special grant from the Provincial Department of Agriculture at Quebec.

Special attention has been given during the past few years to the production of clover seeds in the province of Quebec, but on account of the clover crop being badly winter-killed little progress was made during the past summer.

Three series of summer meetings were conducted during June in the interest of seed production, and more than fifty lectures were delivered by experts on the growing and harvesting of grass and clover seeds, seed selection and weed identification and eradication. From July to November was spent by the district representative in visiting and inspecting the operations of farmers who make a specialty in growing and selecting seed grain and other seeds, and during the winter months his time was occupied in addressing farmers meetings and organizing seed fairs for the following year.

PROVINCE OF ONTARIO.

The farmers in the province of Ontario devote a great deal of attention to growing seeds of the various kinds of crops. The production of alsike and red clover seed has grown to be an important industry in some sections of the province. The supply of alsike seed therein produced virtually controls the world's prices for that commodity. In the average of years, fully one-half of the red clover seed produced is exported to Europe, and more than that proportion of the alsike seed. Although attended by some risks on account of crop failure during exceptional seasons, the clover seed crop is usually a remunerative one, and has the advantage of most other crops in that it does not materially deplete the soil of its fertility. Prior to the enactment of the Seed Control Act, the prices paid for clover seed of the best quality, grown on clean land, and for seed grown on land foul with noxious weeds, were too nearly uniform; the grading of the seed for market was based largely on its general appearance and colour, without due attention being paid to the noxious impurities contained in it. In consequence, noxious weeds, the seeds of which are common in red clover and alsike, became widely disseminated throughout the province, and have been a source of inestimable loss to farmers on whose lands they were for the most part unwittingly introduced. The enforcement of the Seed Control Act has had the effect of substantially increasing the price paid to farmers for clean seed, and has discour-

aged the production of clover seed on lands foul with weeds. The seed produced on such unclean land is permitted to be sold for the purpose of recleaning, and it usually brings a much lower price than the clean seed.

My officer who has charge of the work of this branch in the province of Ontario has devoted considerable time to the matter of the production, selection and preservation of seed corn, particularly in the counties bordering on lakes Erie and Ontario. The great bulk of the seed corn sold in the trade to producers of ensilage corn has in past years been imported in a shelled condition from the Southern States. When shelled, corn is susceptible to damage from heating, which destroys its vitality. It has been found that this danger is largely overcome when the corn is left on the ear until it is wanted for seeding. Those who have procured their supplies of ensilage corn in the ear have been well satisfied with the results, and an effort has been made to have this method of preserving and handling seed corn become more general in the trade. In the production and selection of seed corn, it is necessary to prevent crossing between distinct types and varieties, and fields that are grown for seed have therefore to be grown somewhat apart from other kinds of corn.

A great deal of educational work in the matter of the production and use of high-class seeds and in the control of weeds has been done in co-operation with the Provincial Department of Agriculture. Seventy-three summer field meetings were conducted in the province of Ontario during June and early July. These were arranged through the farmers' institutes. My department met the cost for advertising the meetings and providing trained lecturers to discuss the problems of seed production and selection and the identification and eradication of weeds. Expert judges were also provided for each of twenty-three seed fairs, which were this year organized and conducted for the first time under the immediate auspices of farmers' institutes and agricultural societies. It is expected that their number and the interest taken in them will be materially increased by another year.

The enforcement of the Seed Control Act is an important part of the work of my officer for this province. Seed vendors in all parts of the province have been visited, and the application of the Act explained to them. Wherever any seeds of questionable quality were exposed for sale, official samples were taken by the inspector. They were examined in the seed laboratory, and a letter of warning issued to the person who had them for sale. More than 100 towns and villages were visited by the inspector last year. It is gratifying to know that although occasional violations of the Act are reported, the evidence throughout has shown a desire on the part of seed merchants to comply with the provisions of the Act, and it is believed that most of the violations have been unintentional. It is anticipated at this time that the principal difficulty that may be experienced by seed merchants during the coming season of the seed trade will arise in connection with the sale of red clover seed, largely on account of the failure of the Ontario crop during last season, and the consequent necessity of making large importations of foreign grown seeds. The price for red clover seed at this time is unusually high, and the demand for No. 1 quality was never greater, and is believed to be considerably in excess of this year's supply.

PROVINCE OF MANITOBA.

During the early spring months a great deal of the time of my district officer for the Seed Branch, whose headquarters are at Winnipeg, was occupied in organizing seed fairs and competitions in standing fields of seed wheat and other grain. A circular was issued to each of the agricultural societies in the provinces of Manitoba, Saskatchewan and Alberta, offering to provide expert judges free of cost to all agricultural societies which would provide $100 to be awarded in cash prizes for fields of standing grain of not less than ten acres, and judged from the standpoint of utility for seed purposes. The agricultural societies at Hartney and Morden were the only ones that availed themselves of this offer.

The months of July and August were devoted to inspecting the operations of farmers who make a specialty of growing and selecting seeds of cereal grains, most of them being members of the Canadian Seed Growers' Association.

The work of organizing and advertising seed fairs entails a great deal of clerical work which, for the province of Manitoba, is managed directly from the Winnipeg office, and occupies much of the time during the early winter months.

Two seed fairs were held in the month of December and twelve were held during the months of February and March at the following places: Manitou, Carman, Virden, Deloraine, Morden, Hamiota, Portage la Prairie, Brandon, Neepawa, Killarney, Dauphin, Swan River, Gilbert Plains and Hartney. My department, through the district officer, co-operates with agricultural societies in making arrangements for these seed fairs, meets the cost for advertising and provides expert judges and lecturers to attend them. The rules and regulations that govern these seed fairs are practically uniform throughout. A grant of $150 was made to apply towards expenses in connection with the seed department of the winter fair at Brandon, which is provincial in character. The exhibits of seed grain at Brandon were numerous, and the quality was exceptionally good. The exhibits represented more than 40,000 bushels of seed grain for sale.

The work of the Seed Branch in the province of Manitoba ended, for the fiscal year, with the commencement of the inspection work under the Seed Control Act.

PROVINCE OF SASKATCHEWAN.

There are as yet only twenty-six farmers in the province of Saskatchewan who make a specialty of growing and selecting seed wheat and other grains. I instructed that the officer in charge of this work for the province of Saskatchewan should devote a great deal of his time during the summer months in an endeavour to interest other good farmers in the work of seed growing, with a view ultimately to induce them to take up this work as a special industry in their farming operations, and in that way to greatly increase the supply of good and pure seed wheat of desirable milling varieties. Those farmers who give special attention to that work are visited each year by my officer, and are materially aided by him in disposing of their surplus supply of seed grain at prices commensurate with its value.

Competitions in standing fields of seed grain were arranged for in co-operation with the Provincial Department of Agriculture, and successfully conducted by thirty-one of the agricultural societies in Saskatchewan. These have been the means of arousing interest in the production of high-class seeds and of increasing the yield and improving the quality of the grain produced. A summary of the results of these competitions was published in bulletin form and distributed to the farmers throughout the western provinces.

Twenty-one seed fairs were held in Saskatchewan during the past winter months, and, with one or two exceptions, were most successful. The average attendance at the seed fairs was 78; the average amount of prizes paid out was about $80 for each fair; there was an average of 21 entries of seed grain, of which nearly a third was ruled out of competition on account of the presence of seeds of objectionable weeds. Seed wheat seemed to predominate, having an average of 12 exhibits at each seed fair. The classes for barley, flax and grass seeds were never well filled. The average amount of clean seed wheat for sale at each seed fair was 2,823 bushels and the good clean seed of all the various kinds of grains, grasses, &c., make a total average of 6,271 bushels for each seed fair. The prize winning wheats at all of the 21 seed fairs averaged 63½ pounds per measured bushel, the heaviest sample going 65½ pounds. The prize winning oats at the 21 seed fairs averaged 41¾ pounds to the bushel, the heaviest of all at all fairs tested 45½ pounds per measured bushel.

Germination tests of a large number of the samples that were taken indicate that occasional lots of the seed oats, although of excellent appearance, are apt to be low in percentage of vitality. To further add to the usefulness of these seed fairs, arrangements are being made so that germination tests of seed oats exhibited may promptly be made at the seed laboratory at Calgary, and the results made known at the time of the seed fair. Lectures on seed growing, seed selection and kindred subjects were delivered at all of the seed fairs to a total of more than 1,600 farmers.

The work of seed inspection in the province of Saskatchewan, as well as in the provinces of Manitoba and Alberta, has been considerably lessened on account of the existing provincial laws, which were in force prior to the enactment of the Seed Control Act. Those laws fully cover and in fact are more comprehensive than it was thought well to make the Seed Control Act during the first few years, in as much as the Dominion Act is made to apply throughout all Canada.

PROVINCES OF ALBERTA AND BRITISH COLUMBIA.

The operations of the Seed Branch for the provinces of Alberta and British Columbia are directed from the district office in Calgary, and are under the immediate charge of Mr. W. C. McKillican, who is given the supervision of the work of the Seed Branch for the western provinces, under the seed commissioner. The work of inspection in the province of British Columbia engaged his attention during the early spring months. He spent a considerable time during the summer in visiting and instructing farmers who are growing high-class seed and who are members of the Canadian Seed Growers' Association, and served as judge of agricultural products at the exhibitions held at Calgary, New Westminster, and several of the smaller fairs. During Sep-

tember and October several weeks were spent in farmers' institute work in British Columbia. Seed fairs were held in Ponoka, Red Deer, Olds, Innisfail, Didsbury, Calgary, Medicine Hat, Lethbridge, Magrath and Cardston. As in the previous year, the Seed Branch bore the cost of advertising, and supplied expert judges and speakers. A provincial seed exhibition was held March 6 to 8 at Edmonton. Exhibitors sending from different points of the province of Alberta were assisted in transportation charges. In holding this exhibition the Seed Branch co-operated with the Provincial Department of Agriculture. It was the first provincial seed exhibition held in Alberta and was a decided success.

During the past summer competitions in fields of standing grain were held in connection with the Vegreville, Red Deer, Medicine Hat, Lethbridge, Magrath, Raymond and McLeod agricultural societies. The conditions in this province were the same as in Manitoba and Saskatchewan. Prizes to the amount of $100 were offered by each society, and judges were supplied by the Seed Branch. Before commencing the work of judging the judges spent a day in instruction and practice in judging fields of grain with the score card at the Experimental Farm, Indian Head.

Several weeks in February were spent in farmers' institute work in Alberta.

The seed laboratory for the west, which was forecast in last year's report, has been established at Calgary, and has amply justified its existence. Starting operations January 25, the number of samples received for testing up to March 31 were as follows:—

Kind of Seed.	Alberta.	British Columbia.	Saskatchewan.	Total.
Wheat	60	.....	44	104
Oats	150	.....	15	165
Barley	27	1	5	33
Peas and beans	2	.....	.....	2
Rye	1	.....	.....	1
Flax	1	.....	5	6
Timothy	6	21	1	28
Other grasses	14	10	1	25
Alfalfa	2	6	.....	8
Red clover	2	18	1	21
Other clovers	2	11	.....	13
Vegetables	53	2	.....	55
Total	320	69	72	461

THE LIVE STOCK BRANCH.

The work of the Live Stock Branch is directed towards the improvement of the stock-raising industry in Canada, and is carried on through the agencies of expert teachers and stock judges; the systematic distribution of pure-bred breeding stock; the yearly testing of pure-bred dairy herds; the supervision of the accuracy of registration of pure-bred animals; and the extension of the nationalization of live stock records.

A heavy demand from the various provinces for speakers and demonstrators for farmers' institutes and live stock judging schools has been met by the Live Stock

Branch throughout the year. In June and July expert teachers were placed at the disposal of the provinces of Prince Edward Island, Nova Scotia and Quebec. In the two former provinces series of meetings were addressed upon topics bearing upon the live stock needs of these provinces. In Quebec, in addition to a series of regular institutes, a number of special bacon hog meetings were held, for which a carload of hogs, hog fences, foods, &c., were used for demonstration purposes.

During the late summer and autumn months delegates from the Live Stock Branch addressed gatherings of farmers in Prince Edward Island, Nova Scotia, New Brunswick, Saskatchewan, Alberta and British Columbia. At a large number of these meetings live animals were used for demonstration purposes, and where these could not be obtained suitable charts, diagrams and stereoscopes were used for this purpose.

Again in January, February and March lecturers were at work in Quebec, Saskatchewan and Alberta. In Quebec at fifty points about fifteen thousand persons were addressed upon agricultural topics. The work in Saskatchewan and Alberta took the form of combination farmers' institutes and stock judging schools. In the latter province two carloads of stock, comprising about fifty head of the various classes of horses, cattle, sheep and swine accompanied the delegation of expert teachers for demonstration purposes. Block tests and judging competitions were interesting features of each of these schools.

From the Atlantic to the Pacific coast farmers attended these meetings with receptive minds, with the result that the agricultural practice of the Dominion is gradually improving.

For the winter fairs held at Amherst, Brandon, Neepawa, Killarney, Regina, Calgary and Vancouver judges and lecturers were supplied for live animals and dressed carcasses. At several points where horse shows were held in connection with these fairs the judging was accomplished by representatives appointed by the live stock commissioner. The programme of lectures, demonstrated in many cases by live animals or carcasses, occupying from one to three days, were carried out at these fairs. The lectures for these were usually delivered by the men who placed awards on the stock.

During the summer and autumn of 1906 expert judges of the various classes of farm animals were provided for circuits of fairs and exhibitions in the provinces of British Columbia, Alberta, Saskatchewan, Quebec, New Brunswick, Nova Scotia and Prince Edward Island. Whenever an opportunity was afforded these judges delivered addresses at the ringside, in which reasons were given for the placing of the awards.

Assistance was afforded to provincial live stock associations towards the holding of co-operative auction sales of pure-bred stock for breeding purposes in the provinces of British Columbia, Alberta, Saskatchewan, Manitoba and the Maritime Provinces. This system of distributing improved live stock at the lowest possible expense was organized and put into working order a few years ago, and is now carried on by the provincial associations, each of which receives an annual grant towards defraying the expenses of the sale. One condition of these sales recently imposed by those responsible for their management, viz., that no animals other than those owned by a resident

of the province concerned, is at present receiving the attention of the live stock commissioner, as it is scarcely in accordance with the policy of the department.

Four sales of pure-bred swine of the breeds suitable for the production of bacon for the British market were held in the province of Quebec in October, 1906. The object of the sales was to introduce superior stock for the improvement of the swine in the province. Each sale comprised about twenty-five animals about seven to nine months' old of the Yorkshire and Tamworth breeds. Many were purchased by farmers' clubs for the general benefit of their members. They brought an average price of about sixteen dollars per head.

With a view to encouraging breeders of pure-bred dairy stock to give greater heed to the increasing and improving of the milk production of their herds, I undertook, early in 1906, to officially supervise the yearly testing of pure-bred herds. The breed associations co-operating in this work agree to regulations imposed by the live stock commissioner, and to publish as an appendix to their respective herd books the records of cows that reach the standard for registration in the record of performance. The standard for registration varies with the different breeds according to the wishes of the associations respectively. All other rules and regulations were drawn up by the live stock commissioner, and are uniform for all breeds.

The Ayrshire, the Jersey, the Guernsey, the French Canadian and the Holstein-Friesian Associations have subscribed to these regulations and have set standards for registration. So far only the Ayrshire and the Holstein-Friesian Associations have undertaken the work of yearly testing on more than a very limited scale.

The nationalizing of Canadian live stock records, which was undertaken in 1903 and applied to a large number of breeds, has been further extended during the past year. Since March 31, 1906, national records have been established in Canada for Thoroughbred horses, Red Polled and Aberdeen-Angus cattle, and Cotswold, Leicester, Lincoln, Shropshire, Southdown, Dorset, Oxford and Hampshire breeds of sheep.

A new book has been established for the French Canadian breed of horses. The original stud book taken over by my department for nationalization was found to contain the pedigrees of horses that by their breeding and aptitudes do not conform to the original 'Canadian' horse. The old book was therefore closed, and a new foundation book commenced with inspected stock of proper type, quality and breeding. A commission of qualified men is now visiting each county in the province inspecting not only animals registered in the old book but new applicants for registration as well.

Under the national system of registration a uniform style of certificate for all breeds has been adopted. Each certificate after being prepared by the registrar, working under instructions from his respective record associations, is compared with the application for registration sent in, and scrutinized for accuracy by an officer of the Live Stock Branch, who, upon finding the certificate correct affixes the seal of the Department of Agriculture before it leaves the office of registration. This provision assures the Canadian farmer, the foreign buyer and the foreign government, that a pedigree issued by the Canadian National Records is authentic.

The following table shows the total number of certificates of registry and transfer approved by the department during the past fiscal year:—

Association.	Certificates of Registration.	Certificates of Transfer.
Cattle—		
Shorthorn	10,762	2,432
Ayrshire	1,973	790
Hereford	732	246
Aberdeen-Angus	464	81
Galloway	63	6
Jersey	129	9
Guernsey	35	6
French Canadian	160	29
Red Polled	33	.....
Horses—		
Clydesdale	1,984	515
Shire	59	11
Hackney	167	25
Thoroughbred	52	.....
Sheep	707	177
Swine	6,411	533
Total	23,731	4,860

EXPERIMENTAL FARMS BRANCH.

The experimental farms grow in favour with the farmers of the Dominion from year to year. They give constant and helpful information which is very much appreciated. The large accumulation of useful facts, the results of careful observations, which are presented from year to year in the annual reports and bulletins issued, are treasured carefully by most practical farmers, and referred to from time to time as the information is needed. The constantly increasing demand for the publications of the farms is a most gratifying evidence of the general appreciation in which they are held.

NEW EXPERIMENTAL FARMS.

The usefulness of these institutions has led to frequent requests for more of them, and during the past year, under my instruction, two additional experimental farms have been selected and the work connected with their establishment begun. One of these has been located at Lethbridge, in southern Alberta, where it will give opportunity for experiments on the various problems connected with irrigation, as well as those relating to dry farming. There are 400 acres of land in this farm, 100 of which can be irrigated, and the other 300 will be available for experiments in dry farming. The other new farm has been established at Lacombe, in northern Alberta, and comprises 150 acres, where experiments in general farming suitable for that district will be conducted. At both these farms different methods of preparing and cultivating the soil will be tested, and the adaptability of various important grain and fodder crops to the climatic conditions prevailing in these localities ascertained. Trials will also be made with different sorts of fruits and vegetables, and also of forest trees for shelter, all of which it is hoped will prove useful to the farmers of Alberta. It is my purpose to establish several additional stations in other parts of the Dominion during the coming year.

SESSIONAL PAPER No. 15

Experiments have been continued during the past year in all branches of farm industry. Many new and important facts have been ascertained in reference to the quality and productiveness of many promising wheats, and their relative value for flour and bread making, especially early ripening sorts; also in regard to the feeding of cattle and swine. A large distribution of the best varieties of grain available has been made and samples for trial freely sent to all parts of the country for the improvement of seed. Much progress has also been made in the production and testing of different sorts of fruits suitable to the different climates of Canada. In the poultry branch also much useful work has been done, helpful to the progress of this industry and to the making of it more profitable. Other lines, especially those involving original research in the Chemical, Botanical and Entomological Divisions, have been pursued with much enthusiasm by the several officers in charge, and many useful facts have been accumulated for the benefit of the farmer and fruit grower.

DIVISION OF AGRICULTURE AND LIVE STOCK.

In soil cultivation and crop growing, lines of work of very great importance are being carried on. Studies are being made of (*a*) cost of growing various crops under varying conditions; (*b*) influence of depth of culture upon productivity of soil; (*c*) influence of different methods of manuring upon soil fertility; (*d*) influence of rotations of varying length and character upon soil fertility and soil improvement; (*e*) comparative values of different rotations as systems to follow on stock farms; and (*f*) influence of pasturing upon (1) fertility of soil, and (2) cattle-carrying power of a given area.

The soil.—Twelve different rotations are under test. Various methods of growing different crops are being tried, with interesting results. Various systems of cultivating the soil are being compared as to economy of operation and influence on fertility.

Crops.—The field crops common to Canada are grown, and a study is being made of their comparative economy as food or forage producers.

Indian corn is grown extensively, and has been found to be exceedingly valuable as a feed for all classes of live stock both as grain and roughage. It has been found to be much more economical to preserve it as ensilage, and feed it to cattle in that form than to attempt to dry it in the stook as is very commonly done.

Roots have been grown extensively, and have been compared with corn as to economy of production, and value as feed for different classes of live stock.

Different sorts of oats are grown extensively, and our experience goes to show that for this part of Canada the Banner is easily the heaviest cropper.

Clover and alfalfa are grown quite largely, and our results show that as soil improvers and food producers combined they are of unsurpassed value to the farmer.

In the Animal Husbandry division, work is being carried on with dairy cattle, beef cattle, steers, sheep and swine. It sought to determine the comparative economy of different foods as milk and flesh producers, and to determine the most economical rations or food mixtures to feed the different classes mentioned.

Dairy cattle are kept in considerable numbers, and numerous experiments are being conducted to gain information as to the best feeds for them, the best methods of feeding, the best classes to keep, the best lines of breeding to follow, the influence of different breeds and conditions on the milk yield and quality, and the best care to give in summer and in winter.

Beef cattle are kept in small numbers. An effort is being made to ascertain whether it is possible to combine dairying and beef production profitably in the same herd.

Steers are fed quite extensively for beef production, and experiments during the past year have been to determine the comparative economy of feeding well-bred vs. badly-bred steers.

Swine.—The production of pork for bacon manufacture is always a problem of primary importance, and some experiments are always under way with a view of gaining some light on the various difficulties which meet the pork producer at every turn.

Sheep.—Two breeds of sheep are kept on a small plot of ground, and an effort is being made to determine if possible the number of sheep that may be kept on a given area and the profit that may be expected from them. The breeds kept are the Shropshire and Leicester.

HORTICULTURAL DIVISION.

Notwithstanding the very unusual winter of 1905-6, with a light covering of snow which disappeared early in March, the injury to fruits at the Central Experimental Farm was not great, with the exception of strawberries, a plantation of which was almost completely destroyed, as were practically all strawberry plants in the vicinity of Ottawa. The comparatively small amount of injury among fruit trees was probably due principally to the fact that most of the trees are now root grafted on hardy stocks, those on tender stocks having for the most part been killed out in severe winters during the past nineteen years.

The older trees at the farm which have been planted since the year 1888 are now producing, when there is a full crop, from three to four barrels of fruit each, so that there is an increasing crop of apples each good year.

In 1906 the summer and autumn varieties yielded well, but there was a small crop of winter fruit. There are growing up in the orchards at the farm young trees of a different class of winter apples, which are much hardier than most of those at first tried. Some of these have been for some time represented by individual trees in the orchard, while others have not fruited at Ottawa yet. These winter apples are varieties which ripen their wood up well in the autumn. This early ripening of wood brings with it a fruit which is more mature when picked than most of the older varieties of winter apples, but the fruit will keep all winter if in good storage. The difficulty with most winter apples is that the trees grow too late in the autumn, and the wood is not sufficiently ripened to withstand the cold and changes of temperature. The hardy winter apples have practically all been originated in a climate much like that at Ottawa. Some have been originated at Ottawa.

A large number of seedling apples fruited at the Experimental Farm this year, among which are some very promising varieties, including winter sorts of good quality. Some of these have been named in order that they may be sent to other places for further test and to determine whether they are worthy of introduction. As there are so many kinds already on the market it is not desirable to introduce anything unless it has greater merit than the varieties already introduced.

An experimental shipment of summer apples was made to Glasgow, Scotland, in 1906. The fruit arrived in good condition, and sold at fair prices. One of the objects in making the shipment was to determine whether thin wood material, such as can be obtained in eastern Canada, could be used for the tops of the boxes as in British Columbia, where tougher wood can be procured. The boxes carried well, there being no breakage. If in future shipments this wood proves tough enough it will be an advantage, as the fruit can be packed much more tightly with thin covers, and with a minimum amount of bruising.

A small orchard of about one and one-half acres of two varieties of apples was planted in 1906 for comparison of cultural methods, the object being to learn what effect each will have on the growth, hardiness and fruitfulness of the trees.

The grapes did well at the farm in 1906, and a large number of varieties ripened thoroughly. New and earlier varieties are being introduced from time to time, so that the number which will ripen every year is increasing. Some of the seedlings originated at the Experimental Farm are very promising.

The vines are covered with soil each winter. The value of this soil seems to lie more in the protection afforded from sudden changes of temperature than from extreme cold.

Experiments with vegetables have been a prominent feature of the work of the Horticultural Division for the past nineteen years. The tests of varieties are now for the most part limited to a comparison between those which have been found to be the best and the novelties offered each year. Cultural methods are now receiving increasing attention. For the past few years experiments have been in progress in saving and selecting seed of certain kinds of vegetables grown at Ottawa. The effects on earliness have been very marked, home-grown seed producing earlier crops.

Spraying experiments were conducted in 1906 in fighting aphis, which were very troublesome during the summer. Different percentages of kerosene were used in an emulsion made with flour with very satisfactory results.

The forest belts which are included in the Horticultural division yield useful information each year. In addition to the annual measurements of trees, notes were taken recently on the effect which the trees have upon each other in the mixed belts. Certain kinds soon succumb if shaded, while others endure shade for a long time.

The Arboretum and Botanic Garden looked well in 1906, notwithstanding the severe drought. Additions were made to the collection, which is now a very large one. Most of the native trees and shrubs are represented, and a large proportion of them

do well at Ottawa. Much valuable information on the hardiness, time of blooming, growth, &c., of the trees and shrubs and herbaceous plants is being obtained.

DIVISION OF CHEMISTRY.

The general work of the division in all its branches has increased during the past year, and this fact may be taken as an encouraging sign, since it affords satisfactory evidence that the farming community are appreciating more and more the value of chemical work to every day practical agriculture. This direct educational work is chiefly carried on by assistance through correspondence, and by the examination of soils, feeding stuffs, &c., &c., sent in by farmers.

Several of the more important researches of the past year may be referred to briefly as follows:—

The Deterioration of Wheat on Scrub Lands.

In certain districts in the Northwest, and more particularly on newly cleared land, hard No. 1 Red Fife becomes more or less starchy and thus reduced in value. Experiments to ascertain the cause of this deterioration were instituted in one or two districts of Manitoba, and it has been found that this newly cleared land, was compared with adjoining land which had been cultivated for a number of years, was richer in vegetable matter and nitrogen, and throughout the whole growing season contained a very much larger percentage of moisture. The investigation will be continued, and if future work confirms the present data it may be possible to find not only the reason for the deterioration but also a remedy. It seems more than probable that environment, including all the conditions of growth, exerts a very marked effect on the resulting grain, and it is therefore of the highest importance to ascertain what those conditions are that conduce to a first quality of wheat and to learn how far such condition may be modified by cultural operations.

The Chemistry of Wheat.

An endeavour is being made to establish some better relation than is at present apparent between the composition of wheat as revealed by chemical analysis and its baking or bread-making value. This investigation is being conducted in conjunction with the Cereal Division. Its importance is self-evident. Certain facts, or rather relationships, of considerable significance have been made clear by this research, but as the work is still under hand it is too early to make any definite announcement thereon. The probability, however, is that it is the amount and nature of the nitrogeneous compounds that will be found to be the determinating factors.

The Maintenance of Soil Fertility.

This is a matter of national importance, especially considered in connection with our Northwestern wheat fields. It has been shown that all soils, especially the richest, show a marked deterioration when cultivated to grain successively for a long period. It must not be supposed that any soil is inexhaustible; unless rational systems of culture are adopted they must gradually fail. The present system of cropping, i.e., a

cereal crop with occasional summer fallowing, will assuredly in time lead to reduced yields. This is chiefly owing to loss of organic matter and the concomitant loss of water-holding ability. Experiments have therefore been made to learn the value of certain 'green crops,' such as clover and peas, for keeping up this fertility, and it would seem that in districts where clover is considered a failure peas may be used with advantage for this purpose.

Management of Orchard Soils.

Further experiments have been carried on to learn the effect of cultivation, various cover crops, the growth of weeds, &c., &c., on the moisture content of the soil. It has been shown that sod, allowing weeds to occupy the ground in seasons of drought, act most injuriously by robbing the orchard trees of the moisture they require for their growth. Cultivation on the other hand tends to conserve the moisture, so that through the whole season of 1906, the greater part of which was marked by a scanty rainfall, the initial percentage of water in the soil was maintained.

Insecticides and Fungicides.

A number of new emulsions and washes have been devised which it is believed will prove serviceable. Several of these are combined insecticides and fungicides, such as a spray compound of bordeaux mixture, kerosene and paris green. In all of these, flour has been used as the emulsifier, and found very satisfactory.

Many samples of bluestone and formalin, used in the treatment of wheat for the prevention of smut, have been analysed. The general result is that very little adulteration has been detected.

Feeding Stuffs.

Various by-products, from breakfast food factories, starch factories, beet-sugar factories, &c., &c., on the Canadian market have been analysed and their nutritive value determined. This work has been much appreciated by farmers, dairymen and stock-feeders, as it allows them to use discrimination in the purchase of those feeds necessary to supplement their home-grown fodders.

Dog-fish Scrap.

Dog-fish scrap, the residue after the extraction of the oil, is now being produced in large quantities at the Reduction works in Nova Scotia. It was desirable to ascertain its fertilizing value, and to determine what elements might be necessary to supplement its use in order to make a complete fertilizer. A large number of analyses have been made, and it was found that this is essentially a nitrogenous material. The dog-fish has not a bony skeleton, and the refuse is accordingly low in phosphoric acid. The scrap will contain between eight and nine per cent nitrogen, which is exceedingly high. With the addition of a due proportion of phosphates and potash salts (the muriate or sulphate) a very valuable fertilizer would result.

DIVISION OF ENTOMOLOGY AND BOTANY.

The work in this division during the season of 1906 was of a very diversified nature. The remarkable drought which prevailed throughout the Ottawa valley during

1906 reduced the vigour of all vegetation, and enabled many kinds of injurious insects to increase in an unusual manner. One of the notable outbreaks of the year which required much attention and correspondence, was of several kinds of plant lice, which attacked almost all trees, shrubs, and herbaceous plants. As is usually the case, these insects were to a large measure controlled by their natural parasites. The ornamental birches on the Experimental Farm, and also those in the woods, were literally swarming with plant lice during June. In July countless numbers of the Two-spotted Ladybird Beetle appeared, and entirely put a stop to this outbreak. The blackish pupæ of the ladybird beetles were so abundant on the leaves as to give a strange dirty appearance to the birch trees. From 18 to 20 of the pupæ were sometimes found on a single leaf. Unfortunately, few of these produced the ladybirds. Instead, from each pupæ a swarm of minute hymenoptenous parasites emerged.

A new injury was observed at Ottawa in the destruction of the seed of the silver maple by the larvæ of a small Nitidulid bettle, *Epuræa rufa,* of which over a dozen occurred in each seed, entirely destroying its germinating power. In the swamps and woods, as well as on ornamental grounds, the American Arbor-vitæ was seriously disfigured by the attacks of the caterpillars of two minute moths, *Argyresthia thuiella* and *Recurvaria thujaella,* which gave these trees a rusty sickly appearance by reason of the large number of the tips of the twigs which had been killed by the caterpillars boring inside them during the previous autumn and the following spring.

In the flower garden much attention was attracted by the injuries of one of the minute moth-flies, *Aleyrodes vaporariorum,* which is a well known pest of greenhouses.

Of the fruit pests, the Apple Maggot was a source of anxiety, having appeared in several widely separated localities, as in southern Ontario, Quebec and New Brunswick, and it is reported from Nova Scotia.

The San José Scale situation is practically unchanged. This insect is causing extensive losses in the small part of Ontario which is infested; fruit growers have not yet adopted generally the systematic spraying of their orchards with the lime and sulphur wash, which is necessary to control this pertinacious insect. There have been one or two small occurrences of the San José Scale in British Columbia. The attention of the provincial government has been drawn to the matter, and steps have been taken to clear the orchards.

The Codling Moth, which for some unexplainable reason has never been a serious enemy of the fruit grower in British Columbia, is now destructively present at two localities in that province, and advice has been given as to the best means of controlling it.

The Oyster-shell Scale, a well known enemy of the fruit grower and gardener, possibly owing to the dry season, increased in a very remarkable manner, and has been the subject of much inquiry.

In Nova Scotia there has been during the past season considerable injury done in apple orchards by the caterpillars of the two common Tussock Moths, which in many places disfigured the fruit by gnawing cavities in the sides of the apples, and also ate the leaves.

The Brown-tail Moth, which has done so much harm in the New England States, has unfortunately established itself in Nova Scotia and New Brunswick. Immediately on receiving specimens of the over-wintering caterpillars, steps were taken through the local press to stir up fruit growers and others to make a thorough search for the tent-like nests containing the caterpillars and destroy them. As the Brown-tail Moth passes the winter in the caterpillar condition in colonies of 200 or more in a silken tent near the tips of the twigs of the fruit trees, its identification is a very easy matter, because no other insect found in the orchards has this habit. The provincial government of Nova Scotia, through Prof. Cuming, of Truro, and his staff, has taken this matter up energetically, and everything is being done to encourage owners of trees to destroy the caterpillar-containing tents, and later to spray orchards regularly so as to kill any caterpillars which may have been overlooked.

In the vegetable garden, two insects calling for mention are the Asparagus Beetle, which has now spread as far east as Ottawa, and the Potato-leaf Aphis, which did much injury in eastern Canada.

In British Columbia, the oak trees around Victoria were again denuded by the Vancouver island Oak-Looper. Where the trees stood in private grounds they were protected by spraying with arsenical mixtures.

The spruce Gall-louse continues to increase, particularly in the province of Ontario, and has done much harm in groves of white spruce.

As in past years, large numbers of specimens of insects and plants have been sent in to the division for naming, both by farmers and gardeners as well as by scientific students and school teachers. The officers of the division have been pleased to attend to all these promptly, and several acceptable additions have been made to the collections from this source.

The entomologist and botanist has attended several meetings of farmers' institutes, fruit growers' and teachers' conventions, before which he has delivered addresses on entomological and botanical subjects.

CEREAL DIVISION.

Good progress has been made during the past year in the various branches of work included within the scope of this division. The breeding, selecting and testing of cereals are being carried on as rapidly as possible, with a view to supplying suitable varieties for cultivation under all the varied conditions of climate and soil in Canada. Plant breeding requires many seasons for the completion of even one series of experiments, and some patience is therefore necessary in awaiting the results. The improvement of existing varieties by selection is accomplished more rapidly, and in this work very good results have already been reached, and some selected, improved strains of cereals are now being propagated for distribution.

NEW VARIETIES OF CEREALS.

New sorts of cereals are from time to time obtained from other countries. During the past year some interesting kinds were received from Russia, the United States and

elsewhere. Most of these showed no points of superiority over the best varieties which were already in cultivation at the Experimental Farms, but careful selections from the new sorts have been made for further trial. It is gratifying to notice that the best of the new varieties originated at the Central Experimental Farm show a marked superiority over most of the imported sorts, so far at least as suitability for Canadian conditions is concerned. Several hundred new kinds of cross-bred cereals which are now almost fixed in their characteristics are ready for sowing this season. Among these are some most interesting and promising varieties which should be ready for propagation next year.

The new, selected strains of some of the older varieties of wheat such as Red Fife, Stanley, &c., have proved of great interest, and are now being sent to some of the branch experimental farms for more extended trial.

Test plots.—The uniform, comparative tests of varieties of wheat, oats, barley, peas, turnips, carrots, fodder corn, &c., have been continued as usual. These experiments serve to demonstrate in a striking way the relative productiveness, earliness, &c. of the varieties under test, and make possible a wise choice of varieties suitable for the climate of the district where the tests are carried on. Midsummer at Ottawa was rather dry, so that the crops were in many instances below the average. A fair yield was, however, obtained in most cases.

Flax.—Among the new lines of work taken up last season may be mentioned the selection of prolific strains of flax with a view to the production of fixed varieties superior in merit to the mixed commercial sorts now cultivated in this country. It is hoped that a few years' work in this direction will make possible the introduction of improved strains which will give distinctly larger yields of seed than are now obtained.

Milling and baking tests of wheat.—The study of the quality of old and new varieties of wheat has been continued on a large scale during the past winter, and some important conclusions have been reached. The superiority of hard over soft wheat (when both are of the same variety) for the production of strong flour has been clearly shown; at the same time it has been found that varieties with dark reddish bran are not necessarily superior to those in which the bran is normally pale and yellowish.

The beneficial effect of age on the baking strength of flour has been so strikingly demonstrated in one instance that further work on this subject seems of great importance.

The methods for determining the baking strength of flour have been made the subject of careful study by the cerealist, with the result that a new system has been devised whereby it is possible to give a sufficiently accurate numerical expression to the quality of each sample of flour so that a permanent record can be kept and comparisons made with other flours of the same or any future year.

The baking strength of the flour obtained from the leading varieties of spring and winter wheat has been determined, in some cases for two seasons, and it is proposed to publish these results in bulletin form.

The importance of growing those varieties of wheat which are of the best quality and will command the highest market price is being constantly emphasized; and these investigations into the strength of flour will serve the purpose of clearly establishing the relative merits of the different varieties of wheat in this important respect.

THE POULTRY DIVISION.

During the past year the experimental work of this branch has been of a varied and useful nature. The aim of the department has been by continued trial to find out the real value to the farming community of the following features of more recent poultry development.

1. Unheated houses with scratching shed attachment as compared with partially warmed apartments.

2. The trap nest as a means of detecting the good and poor layers, and so aiding in building up prolific egg-laying strains of fowls.

3. The feeding of dry ground grains to a pen of fowls in an unheated house and the effect on egg production.

It is gratifying to find results—which will be given in detail in the annual report of the farms—more favourable to the unheated house system, with its ample influx of fresh air, than to the other and warmer method. The trap nests have proved valuable in determining the individual egg-laying merits of the different inmates of the various pens. An objection has been made to the use of the trap nest on the ground that where a number of fowls are kept, its efficient manipulation would take up too much of the farmer's time, or, necessitate extra help. Where a farmer has an unusually large number of fowls it would be advisable to have a comparatively small breeding pen and the trap nest used in this pen only. The work of selection would doubtless be slower, but it would certainly entail less trouble. Besides, other systems of selection are now in vogue and are practised with more or less success.

The difference in late methods of feeding consists in the fowls helping themselves to their food and other concomitants which are before them, all the time, in hoppers rather than being fed stated quantities at stated periods. This hopper-feeding method promises to be extensively adopted on account of its simple and effective manner of operation. A trial during last winter of this method of feeding mixed ground grains dry to a pen of fowls was most satisfactory.

Other experimental work in feeding rations composed of whole and ground grains of different sorts and in greater or less quantities was attended with varied degrees of success.

The value of strain as a factor in determining the good or bad laying qualities of the fowls, of all varieties, was forcibly emphasized. Hence the value of a system whereby prolific egg-laying strains may be built up and perpetuated.

A rapidly growing correspondence in connection with this department shows increasing interest in poultry keeping which when properly conducted will be found a profitable branch of farm work.

BRANCH FARMS.

Experimental Farm for the Maritime Provinces.

The experimental work carried on at Nappan during the past year has included trials of the most promising sorts of cereals, fodder corn, field roots and potatoes. It has been so conducted as to indicate which are the best and most profitable sorts for the farmer to grow.

Experiments have been continued with fruits also. New varieties of apples have been fruited in the orchards, and a number of different sorts of small fruits tested. Some interesting and useful work has also been done in the testing of vegetables.

The crops of grain have been above the average. The apple crop also was a good one.

Experiments have also been conducted in the feeding of steers and swine; also with poultry and bees.

Experimental Farm for Manitoba.

The Experimental Farm at Brandon is a source of great interest to the farmers of Manitoba, who visit it during the summer season in large numbers with the object of gaining information from the many object lessons displayed there. In methods of cultivation and diversity of crops, including cereals, clovers, grasses and other fodder and root crops, there are many things which make this farm attractive, and useful lessons may be had at every visit.

The varieties of crab-apples and cross-bred sorts have reached an interesting stage, and the quantities of such fruit produced on the Brandon farm are quite considerable. Many varieties of plums are also grown, and much attention has been given to the cultivation of small fruits.

Experiments are conducted every year in the feeding of steers, also with swine, poultry and bees.

Experimental Farm for the Northwest Territories.

Up to the present time the work of the Indian Head farm has been made to serve the purposes of the whole area of Saskatchewan and Alberta, a section of country too large and varied in its climate to be satisfactorily served by any one institution. The Indian Head farm has done notable work, which has been highly appreciated by the farmers throughout that country. Similar tests to those referred to in connection with Brandon with grain and other important farm crops have also been made at Indian Head. The trials made there with grasses and other fodder plants have been very successful, and the large crops obtained have encouraged many farmers to engage in their cultivation.

Many experiments have been made with garden vegetables, and the information gained has been very useful. Some experiments of special value have been tried in growing vegetable crops from seed ripened at Indian Head. These crops have almost

invariably proved earlier than when grown from imported seed. The tests made with cross-bred apples and the Siberian crab-apple have been very successful, and the great hardiness of these varieties has attracted much attention.

Experimental Farm for British Columbia.

The experimental work carried on at Agassiz includes a large number of trials with varieties of fruit. These have been brought from many different countries. Where a variety proves inferior, as is very often the case, it is promptly discarded to make room for another sort. In this way a large array of facts has been accumulated regarding the quality and season of ripening of many different sorts. Within the last two years commercial orchards have been started with varieties which have been thoroughly tested, and it is hoped that within a few years more some information will be available as to the profits obtainable from the different sorts tested. This season apples were only a fair crop, pears a light crop and plums a heavy crop.

Many different sorts of oats, barley, pease, indian corn, field roots and potatoes have been tested, with much success. On the whole the season was a favourable one for most farm crops.

GENERAL CROPS.

The crops throughout Canada during the past year have been generally good, the area of land under cultivation is rapidly increasing from season to season, especially in the Northwestern provinces, and the surplus grain for export is growing much larger from year to year.

Ontario.

The hay crop was below the average, but it was well saved. Fall wheat gave a crop which was several bushels above the average. Spring wheat also gave similar good crops. The barley crop was exceptionally good, as was also that of oats. In both these grains the crops in Ontario were the best had for many years. Pease and potatoes gave returns somewhat below the average. Field roots and Indian corn for fodder gave about an average yield.

The pastures were rather short in midsummer, but they improved later on. The year has been a successful one with dairy farmers, and their products have brought excellent prices. Fall apples were abundant, but winter sorts gave a light yield. Plums were light in crop, while other sorts of fruit gave nearly average returns.

Quebec.

A wet spring and a hot summer were unfavourable for the best results, and hence the grain crops in this province were not quite up to the average of past years. Although the yield was somewhat short the quality of the grain was good, and the prices realized were satisfactory.

The hot weather in summer had the most serious effect on the hay crop, which was considerably below the average; the pastures also in some localities suffered con-

siderably. This somewhat lessened the output of dairy products, but the high prices which prevailed for butter and cheese were an offset to the shortage.

Potatoes also were below the average. Barley is said to have given a good crop, and was well saved. The unusual heat was favourable for indian corn, which gave a much better crop than usual.

The Maritime Provinces.

The spring was wet and cold, which delayed seeding, but subsequent heat brought the crop to ripeness very fast, and the quality of the grain was not quite up to the average. In Nova Scotia the hay crop was a little above the average, while in Prince Edward Island it is said to have been a little below the average. Oats gave a fair yield, and field roots gave less than an average crop. The pastures were good in the early part of the season, but suffered considerably during the hot period which followed. Indian corn gave excellent crops.

The apple crop is said to have been below the average, but the quality was excellent.

The Northwest Provinces.

In the great Northwest country the season has been a good one. On the whole it was favourable for crops. The spring opened early, and the weather was suitable for early seeding. The grain germinated evenly, and aided by plenty of moisture growth was very rapid. During the early part of August hot weather set in, which prevented the straw from growing too rank and hastened the ripening of the grain, so that the harvest was early. During the harvest period the weather was favourable, and the grain was saved in good condition. With the large area under crop the total product is said to have been over ninety-four million bushels of wheat alone, with eighty-six million bushels of oats and twenty million bushels of barley. The whole northern country is making wonderful progress; every year adds enormously to the acreage under crop and to the amount of grain available for export.

HEALTH OF ANIMALS BRANCH.

During the past year this branch of my department has been still further developed and organized.

The new quarantine stations at St. John, N.B., and Halifax, N.S., have been completed, and are now in full working order.

At Lennoxville, Quebec, which, as an important railway centre, has been selected as a suitable place for a quarantine station, small but convenient buildings are at present in course of erection.

At Bridgeburg, Ontario, a site has been leased, and a building will shortly be erected for the accommodation of imported stock held for quarantine or inspection. Meanwhile a small stable has been leased which serves the purpose for the present.

At Emerson, Manitoba, it has been found necessary to enlarge the accommodation for incoming live stock, and work with this end in view is now in progress.

At Gretna and Bannerman, the points where the new lines of the Hill system cross the boundary between Dakota and Manitoba, new stations are at present being arranged for. Until they can be erected private stables conveniently located are being utilized.

Increased and improved accommodation is being provided at North Portal, Wood Mountain and Willow Creek, Sask., and at Pendant d'Oreille, Coutts and Twin Lakes, Alta.

At Kingsgate, B.C., where the new Canadian Pacific Railway line from Spokane enters Canada, one of our standard quarantine stations is in course of construction. The traffic over this new line promises to be very heavy, and this will to a large extent relieve both Gateway and Nelson, besides enabling me to discontinue the use of Rykerts as an inspection station.

Improvements have also been made to the stations at Midway and Victoria, B.C.

Much of the work above mentioned has been rendered necessary by the putting into effect of an important change in the quarantine regulations providing for the testing with mallein of horses imported from the United States, a matter of which further mention will be made.

It having been found necessary last year to increase the period of quarantine imposed on American hogs, from fifteen to thirty days, it was deemed advisable to apply the same rule to animals of this species imported from Europe. The period of detention in the case of the latter is reckoned from the clearance of the ship from her European port. In order to avoid confusion the same rule was made applicable to sheep imported from Europe. The new ruling may in some cases be the means of increasing by two or three days the period of quarantine formerly imposed on sheep, namely, fifteen days from the date of landing. Under the present system the period is a definite thirty days, which is none too long to ensure the safety of Canadian flocks.

The work of our officers at quarantine and inspection stations, especially on the international boundary, has been to a marked degree systematized and improved, and although there is still much to be done, I am glad to be able to report satisfactory progress.

During the year just past the work of stamping out hog cholera has been, to all appearance, almost completed. A few small recrudescences have taken place in Ontario, some of which occurred in the old quarantined area, and were evidently traceable to chronic cases which had survived previous outbreaks. In another instance a group of small outbreaks was traced directly to swill emanating from a summer hotel near the frontier, the provisions used in which were largely imported from the United States. The following figures indicate very clearly the progress made in dealing with this disease:—

	Outbreaks.	Compensation.
1902-3	360	$36,029 75
1903-4	151	21,352 35
1904-5	52	7,042 73
1905-6 (5 months)	30	839 34
1906-7	23	2,193 66

In these figures are included six outbreaks in British Columbia involving 125 hogs and an expenditure in compensation of $873.05.

Except in Ontario and British Columbia the disease has been unknown, although numerous suspected cases have been reported and investigated. This is a very satisfactory showing in view of the conditions which prevailed five years ago, when new centres of infection were constantly being discovered.

Although, through the work done at the experiment station at Antigonish, it has been conclusively shown that the malady locally known as Pictou Cattle Disease is due to the ingestion of Ragwort or *Senecio Jacoboea,* I have thought it advisable to continue the experiments in feeding sheep to which allusion was made last year. The evidence, so far obtainable, seems to indicate that sheep can eat the weed, whether green or dry, with impunity, but it will be necessary to continue the experiments for a slightly longer period before making any definite statement on this point. Sheep eat the weed very freely, and if it can be shown that they are proof against its injurious effects, they can be largely and very profitably used in the work of its eradication. As the nature of the country in which the weed is found and the condition of its agriculture are both such as to render the keeping of sheep on a somewhat extensive scale highly advisable, the matter of securing definite evidence as to the possibility of their use for the purpose above mentioned is one of considerable importance.

The success which attended the enforcement in 1904 and 1905 of the compulsory mange dipping order in the area infected with this troublesome skin disease was so marked, and the number of infected cattle was in the early part of last season so small, that the stockmen, feeling confident that the disease was under control, passed resolutions declaring general and compulsory treatment unnecessary, provided actual outbreaks were promptly and properly dealt with. Although, under range conditions, it is practically impossible to handle mange in this way, every effort was made to discover and quarantine infected herds, with the result that, until the approach of winter, the prospect was reasonably satisfactory. With the advent of cold weather, however, it soon became evident that the disease still existed to a serious extent in a number of herds, and as the winter was an exceptionally severe one, causing the cattle to drift for long distances and to huddle together for protection from the cold, it quickly spread, and many herds formerly clean were badly reinfected. The disease is now reported to be very prevalent, and it is expected that the mortality from its effects, combined with those of the extraordinarily severe winter and the consequent scarcity of feed, will be exceedingly serious. As a result, there is a strong feeling among stockmen in favour of the enforcement of the compulsory dipping order, and I think it likely that this course will be pursued.

Sheep scab still exists to some extent in a few districts in Ontario. Every effort is being made to effect its eradication, but owing to slackness in reporting on the part of owners and veterinarians, it is extremely difficult to obtain timely information as to its existence. As a means of discovery, the present system of inspecting all export sheep as well as those exposed on the larger markets, is proving of the greatest value.

The policy of slaughter and compensation now followed in dealing with glanders is, I am pleased to say, giving excellent results. The expenditure, which was of course very large during the first year following its adoption, shows this year a marked decrease, while the indications are that the coming season will witness a most gratifying diminution in the number of outbreaks and a corresponding reduction in outlay. In some parts of the country where the disease formerly prevailed to a serious extent, it has been practically stamped out, while even in its greatest strongholds it is gradually being brought under control. In the western provinces, and particularly in Saskatchewan where it has existed to a serious extent for a great many years, the efforts of my officers were seriously handicapped by the constant introduction from the United States of animals affected with the disease in a latent form. Such cases could not well be detected by an ordinary inspection at the boundary, and I therefore, after careful investigation and consideration, obtained an amendment to the quarantine regulations providing for the testing with mallein of all horses imported from the United States. A regulation of this kind is naturally somewhat troublesome and difficult to enforce, but its necessity is evident in view of all the facts, and especially of the compensation now paid by this government for diseased animals.

During the year a special report on glanders was made to me by the Veterinary Director General. This report, the publication of which I thought advisable, has attracted much favourable comment and will, I think, be the means of inducing some other countries to adopt a policy similar to that now followed by this department.

The existence of tuberculosis in cattle, especially in some districts, continues to furnish reason for anxiety. As, however, no practical and effective method of dealing with this disease, other than by slaughter and compensation, has yet been discovered, I have not thought it advisable to make any change in the existing regulations. The policy of universal testing, to be followed by slaughter and compensation, if carefully and conscientiously carried out would, no doubt, eventually prove effective in ridding our herds of tuberculosis, but the cost would be enormous, especially in the case of pure-bred herds, and there would also be a very serious wastage not only of actually existing animals, many of which, as is well known, give a typical reaction to tuberculin when in reality very slightly affected, but of their future progeny, an even more important consideration when valuable breeding stock is in question.

The reliability of the Von Behring and other systems of preventive inoculation has yet to be demonstrated, and while this line of work is being closely watched by my officers, I do not think it wise to adopt or recommend others to adopt it at present.

The experiment in the open air treatment of tuberculous cattle, which has now been in progress since December, 1905, continues to be very interesting, and appears, so far at least, to be likely to furnish a partial solution of the problem. A statement

of the full results to date will be found in the report of the Veterinary Director General.

Anthrax has as usual made its appearance in more than one locality during the past year. Stock-owners in infected districts are, however, becoming alive to the value of preventive inoculation, and now that our own laboratory, as will be seen later, is equipped to furnish fresh vaccine on shortest notice, it is to be hoped that the disease will be kept under proper control.

Maladie du coït, or Dourine, which has, for the past three years, been known to exist in southern Alberta, is still occasionally met with, several serious outbreaks having been discovered and dealt with during the past year. The experimental work in connection with this disease is being continued both at the branch laboratory on the quarantine station near Lethbridge and at the biological laboratory here. Its results, which are most interesting, will be found in detail in the report of the Veterinary Director General. I may say here, however, that any doubt which may heretofore have existed as to the identity of the disease has been entirely removed by the discovery, in February of this year, of the specific trypanasoma of Dourine in the vaginal discharge of a mare brought to the Lethbridge station for detention and observation. The fact that, although the disease has been known to exist on this continent for the last twenty-five years, this is the first time that the specific causal organism has been demonstrated in America, is evidence that the work done by the pathologists of the branch is of a high order.

The work of the laboratory which, begun on a small scale in 1902, has since undergone marked development, is becoming annually of greater value to the stock-owning public. Not only is it now possible to furnish to most of the farmers and veterinarians, who in constantly increasing numbers avail themselves of the privilege of forwarding specimens, absolute evidence as to the nature of the diseases affecting live stock, but in many cases to provide them with agents which will protect their remaining animals from attack. During the year I was fortunate in being able to secure for a period of six months, the services of a gentleman whose experience in the Pasteur Institute in Paris had qualified him to demonstrate to my pathologist and his assistants the methods of preparing the preventive vaccines of anthrax and black-quarter, and these preparations are now supplied to applicants on demand at a merely nominal price.

All the mallein used by the officers of the department has for some years past been manufactured in the laboratory, which will also this year, I hope, be in a position to supply tuberculin, that now used being imported from Germany.

The position of the Live Stock Commissioner having become vacant through the resignation of Mr. Hodson, I, last July, added the duties formerly performed by that officer to those of the Veterinary Director General, who thus holds a dual appointment. Under the new arrangement, more attention than was formerly possible is being paid to the transportation of animals and other matters pertaining to the commercial side of the live stock industry, which is constantly gaining in importance owing to the rapid increase in our export trade.

The Canadian patentees were distributed among the provinces of the Dominion as follows:—

Ontario.	Quebec.	Manitoba.	British Columbia.	Nova Scotia.	New Brunswick.	Saskatchewan.	Alberta.	Prince Edward Island.	Yukon.
465	225	72	57	30	25	25	18	2	1

Patents issued to residents of Canada, with the ratio of population to each patent granted:—

Provinces.	Patents.	One to every.
British Columbia	57	4,043
Ontario	465	4,758
Manitoba	72	5,079
Quebec	225	7,654
Alberta	18	10,300
Saskatchewan	25	10,310
New Brunswick	25	13,415
Nova Scotia	30	16,451
Yukon	1	29,219
Prince Edward Island	2	50,709

Patents issued to citizens of foreign countries.

Countries.	Patents.	Countries.	Patents.
United States of America	4,281	Russia	8
England	330	Norway	7
Germany	201	Newfoundland	4
Australia	97	Netherlands	3
France	78	Mexico	3
New Zealand	41	Cape Colony	2
Sweden	34	Cuba	2
Belgium	23	Spain	1
Austria	23	Chili	1
Italy	20	Finland	1
Switzerland	12	Portugal	1
Denmark	10	Roumania	1
Transvaal	8	Luxemburg	1
Hungary	8		

Statement of the number of patents issued under the Act, on which the fees are paid for periods of six, twelve or eighteen years, at the option of the patentee; and of patents on which certificates of payments of fees were attached after the issue of patents originally granted for periods of six and twelve years.

Period for which Fees were paid on First Issue.			Patents on which Certificates were attached after issue.		Re-issues.
6 years	12 years.	18 years.	6 years.	12 years.	
6,091	6	24	607	27	8

The total revenue for the year ending March 31, 1907, was $169,548.78, exceeding the receipts in all previous years, and resulting in an increase of $13,227.35 over the same period in the preceding year, thus averaging a monthly increase of $1,102.26.

The total number of reports issued by the examiners during the year was 9,141, and 8 patents were surrendered and reissued.

Out of the total number of patents granted by this office during the year, there were 4,281 issued to inventors, or their assignees, resident in the United States, being seventy per centum of the whole issue.

This branch of my department receives regularly the official reports of patents from Great Britain, Australia, United States, France, Mexico and Japan, in exchange for the Canadian Patent Office Record.

I have again to urge that patentees and their solicitors should not delay until the last day in remitting partial fees of the six and twelve years' terms. If these fees are received after the expiry of either term, the patents will cease and determine, the commissioner not being vested with the discretionary power, under any circumstances, to revive them. A revival can only be secured by a private Act of Parliament, the obtaining of which entails considerable expense to the patentee. It may further be added that the Committee on Private Bills usually discourages applications of this kind, on the ground that no one should be denied the right of manufacturing, using or vending an invention which has become the property of the public; exceptional cases may arise, however, in which the patentee or the holder of the patent may be justly entitled to relief from parliament.

In dealing with applications under section 7 of the Patent Act (now section 44, Revised Statutes, 1906, compulsory license system), the requirements of the law in regard to manufacture have been kept in mind. The applications which have been granted are those relating to patents for inventions such as the following: An art or process; improvements on a patented invention when both patents are not held by the same person; appliances or apparatus used in connection with railways, telegraph, telephone and lighting systems, and other works usually under the control of public or large private corporations, and which appliances or apparatus cannot be installed or constructed without the consent of such corporations; and certain inventions which are manufactured or constructed only to order, and are not, according to custom, carried in stock.

In considering applications for extensions of time to manufacture and import, the law is applied according to its strict and literal meaning, and the applications are granted only when the applicant has clearly established to the satisfaction of the office, by affidavit or solemn declaration, that the failure to manufacture or import is due to no fault of his, but to reasons beyond his control. Although these applications continue to be quite numerous, it is seldom that such a case is made out as to warrant the granting of the application.

It is in the interest of both the applicants and the office that great care should be taken by applicants and their attorneys in the preparation of the papers and drawings which are required by the rules and forms.

The clerical work of this branch of my department in the matter of its transactions and correspondence is more prompt than at any time in its recent history, and

I am further pleased to say that the condition of the work in the examiners' divisions has greatly improved, with the gratifying result that applications are now considered and dealt with within a month to three months from the date of filing, instead of as in former years, from six to eighteen months.

IV.—COPYRIGHTS, TRADE MARKS, INDUSTRIAL DESIGNS AND TIMBER MARKS.

STATEMENT of fees received by the Copyright and Trade Mark Branch from April 1, 1906, to March 31, 1907.

Months.	Trade Marks.	Copyrights.	Designs.	Timber Marks.	Assignments.	Copies.	Totals.
1906.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
April	2,567 38	134 50	100 00	12 00	44 75	12 50	2,871 13
May	3,179 00	88 50	80 00	4 00	44 00	31 50	3,427 00
June	2,890 50	118 50	37 00	10 00	18 00	46 85	3,120 85
July	2,820 55	107 50	30 00	18 50	23 00	5 25	3,004 80
August	1,664 50	143 48	49 00	4 00	22 00	9 55	1,892 53
September	2,299 00	91 50	50 00	14 50	56 00	5 00	2,516 00
October	2,367 50	115 50	49 00	16 00	151 00	13 00	2,712 00
November	2,728 47	125 50	95 00	6 00	37 00	26 25	3,018 22
December	2,085 25	177 00	55 00	4 00	39 00	3 00	2,363 25
1907.							
January	2,400 70	97 50	25 00	20 00	36 00	24 50	2,603 70
February	1,960 00	94 50	156 00	6 50	32 00	16 00	2,265 00
March	3,045 50	115 65	94 00	10 50	23 00	24 00	3,312 65
Totals	30,008 35	1,409 63	820 00	126 00	525 75	217 40	33,107 13

The fees received during the twelve months ended March 31, 1907, show a very substantial increase over the receipts for the previous twelve months, the figures being:

April 1, 1905, to March 31, 1906	$27,032 22
April 1, 1906, to March 31, 1907	33,107 13
Increase (being 22 per cent)	6,074 91

The particulars of the registrations made by the Trade Mark and Copyright Branch of the Department of Agriculture during the year ended March 31, 1907, are as follows:—

I. Copyrights—

Full copyrights without certificates	999	
Full copyrights with certificates	147	
Temporary copyrights without certificates	18	
Temporary copyrights with certificates	5	
Interim copyrights without certificates	42	
Interim copyrights with certificates	17	
		1,228
II. Trade Marks		1,119
Renewals of specific trade marks		17

III. Industrial Designs	125
Renewals	10
IV. Timber Marks	47
V. Assignments	282
Total registrations	2,828

The following table shows a comparative statement of the business of this branch from 1897 to 1906, inclusive:—

Year.	Letters Received.	Letters Sent.	Copyrights Registered.	Certificates of Copyrights.	Trade Marks Registered.	Industrial Designs Registered.	Timber Marks Registered.	Assignments Registered.	Fees Received.
									$ cts.
1897	2,606	3,548	756	273	446	75	13	94	14,101 93
1898	2,576	3,453	734	275	423	136	15	114	13,535 17
1899	2,487	2,910	702	237	430	112	5	117	14,161 28
1900	2,679	3,213	893	247	447	126	22	136	14,782 53
1901	2,605	3,211	888	249	521	146	24	183	16,823 26
1902	2,687	3,257	900	196	528	164	26	222	17,703 09
1903	2,687	3,211	900	176	557	88	23	272	18,086 25
1904	2,858	3,293	1,106	228	621	107	25	118	20,647 30
1905	3,367	3,902	1,130	189	661	139	22	154	23,706 77
1906	5,340	5,193	1,228	169	1,119	125	47	282	33,107 13

V.—PUBLIC HEALTH AND QUARANTINE.

Plague, cholera and smallpox have continued their ravages during the past year, and have called for ever-continued vigilance at my quarantine and inspection stations.

Plague has prevailed in Arabia, Argentine, Australia, Brazil, Chile, China, Ecuador, Egypt, Hawaii, India, Japan, Mauritius, Paraguay, Persia, Peru, Philippine Islands, Russia, Siam, Straits Settlements and Turkey.

In Japan this disease showed its usual annual seasonal incidence, with a reported number of some 2,064 cases and 1,686 deaths.

Cholera was present in Ceylon, China, India, Philippine Islands, Russia, Siam and the Straits Settlements.

Smallpox has been pandemic, few parts of the world, if any, entirely escaping its inroads. It has presented itself at several of my stations, but has been arrested and stamped out there.

An outbreak of this disease this winter in parts of Nova Scotia and New Brunswick has caused me to afford quarantine protection to Prince Edward Island by the appointment of a temporary medical inspector for arrivals from the mainland at Cape Traverse.

Local outbreaks and a partial recrudescence of this disease in threatening form in some of the western states of the neighbouring Union, bordering upon Canada, has caused me to appoint special temporary medical inspectors at some of the frontier ports of entry. The places at which such inspectors have been appointed are Victoria, Vancouver, Blaine, Huntingdon, Greenwood, Grand Forks, Rossland and Gateway, with guards acting under the medical officers where required.

With regard to leprosy, the action foreshadowed in my last report has been carried into effect by the passing of 'An Act respecting Leprosy,' assented to on June 26 last, By this Act I have assumed for the Government of Canada the jurisdiction over, and administration of, the leper colony at Darcy Island, B.C., and leprosy generally throughout the Dominion.

Circulars of warning and instructions have been sent to my coast and frontier public health officers from time to time, as occasion demanded.

The diseases which have been brought to my maritime quarantine stations during the year are : Smallpox, beri-beri, diphtheria, scarlet fever, measles and chicken-pox.

A new feature in public health work is presented by the unprecedented influx of Hindus into British Columbian ports. These people come from India via Hong-Kong, thus bringing us into further communication with countries where epidemic diseases, notably bubonic plague, cholera and leprosy, are prevailing.

It is with regret that I have to record the deaths within this year of two of my quarantine officers: that of Dr. John Macdonald, of Chatham, N.B., and that of Dr. John Edgar March, of Partridge Island, St. John, N.B.

VI.—CENSUS AND STATISTICS.

In the early part of the year the Census and Statistics Office was employed in completing the preparations for taking the census of Manitoba, Saskatchewan and Alberta. Three members of the office staff were appointed to take charge of the field work, viz., E. H. St. Denis, secretary of the office, in Manitoba; J. C. Macpherson, in Saskatchewan, and E. S. Macphail, in Alberta. The electoral districts of the provinces were divided into subdistricts, to each of which an enumerator was appointed, and at meetings held in each district the enumerators were sworn into office and instructed for the work.

By the proclamation of the Governor General the time fixed for the census was midnight of Sunday, June 24, and on Monday following the enumeration began. This census, as the Act provides, was limited to population and agriculture.

Under the head of population, the returns have been compiled to show for townships the number of males and females, and for electoral districts the families, conjugal condition, age and birthplace of the people. Immigrant returns are compiled to show the number living in the provinces at the date of census-taking by country of birth, together with the number arrived in Canada previous to 1851, by five-year periods from 1851 to 1900 inclusive, and by single years from 1901 to June 24, 1906. For the

last of these periods immigrant returns are also compiled by single years to show country of birth.

Under the head of agriculture, the returns have been compiled to show for provinces and districts the number of farms, of horses, cattle, sheep and swine, of acres and products of wheat, oats, barley, rye and flax, potatoes, sugar-beets and other field roots, and of cultivated hay for the season of 1905, and areas of the same crops for 1906. For the latter year products are being obtained from a large number of correspondents from which averages are computed.

The compilations of the census are finished, and a preliminary report has been printed to show the population by townships and a summary of the agricultural statistics by provinces and districts. The tables for the final report are nearly ready for the printer. A summary of the census in totals for the three provinces is given in the following table for population, comparatively for 1901 and 1906:—

Schedule.	1901.	1906.	Increase.
Population	419,512	808,863	389,351
Males	228,905	466,257	237,352
Females	190,607	342,606	151,999
Total in Manitoba	255,211	365,688	110,477
Total in Saskatchewan	91,279	257,763	166,484
Total in Alberta	73,022	185,412	112,390
British born	328,884	567,928	239,044
Foreign born	89,182	239,030	149,848
Born in Canada	277,755	444,366	166,611
Born in British Islands	50,440	122,063	71,623
Born in Austria-Hungary	24,977	58,546	33,569
Born in Germany	4,455	14,191	9,736
Born in Norway and Sweden	3,865	15,798	11,933
Born in Russia	23,139	34,104	10,665
Born in United States	20,799	90,738	69,939
Born in other countries	11,647	25,655	14,006
Born at sea and not given	1,446	1,905	459
Immigrants living	*140,362	†364,774	224,412

* At date of March 31, 1901. † At date of June 24, 1906.

The population of the three provinces was nearly doubled in the five years, the rate of increase being 93 per cent. Of the total increase of 389,351, Manitoba's proportion was 28 per cent, Saskatchewan's 43 per cent and Alberta's 29 per cent. The British-born constituted 61 per cent and the foreign-born 39 per cent of the whole increase—the born in Canada being 43 per cent, in the British Islands 18 per cent, in the United States 18 per cent, and elsewhere 21 per cent. Seventy per cent of the whole population is British-born and 30 per cent is foreign-born. The 122,063 born in the British Islands comprise 81,899 born in England, 10,903 in Ireland, 27,760 in Scotland, 1,298 in Wales and 203 in the lesser isles. The 444,366 born in Canada comprise 1,277 born in British Columbia, 146,837 in Manitoba, 3,514 in New Brunswick, 5,990 in Nova Scotia, 163,962 in Ontario, 2,957 in Prince Edward Island, 19,905 in Quebec, 46,987 in Saskatchewan, 5,499 in the Northwest Territories and 8,366 in Canada not given for provinces. The number of immigrants living grew from 140,362 in 1901 to 364,774 to the date of June 24, 1906, being an increase of 160 per cent in the five years.

The number of occupied farms in the three provinces in 1906 was 120,439, being an increase of 65,814 since 1901. In Manitoba the increase was 3,629, in Saskatche-

wan 41,407, and in Alberta 20,778. The number and increase of live stock are shown in the following table, comparing the census results of 1901 and 1906:—

Live Stock.		1901.	1906.	Increase.
Horses	No.	340,329	682,919	342,590
Milch cows	"	244,216	384,006	139,790
Other horned cattle	"	698,409	1,560,592	862,183
Sheep and lambs	"	182,616	304,531	121,915
Swine	"	200,375	439,048	238,673

In three classes of farm animals, namely, horses, cattle not milch cows, and swine, the number more than doubled in the five years, and in milch cows and sheep and lambs the increase for each was about 60 per cent.

Comparative areas of principal field crops on farms are shown in the next table for the growing seasons of 1900 and 1906:—

Kinds of Crops.	1900.	1906.	Increase.
	Acres.	Acres.	Acres.
Winter wheat	947	85,199	84,252
Spring wheat	2,494,519	4,895,245	2,400,726
Oats	833,390	2,322,646	1,489,256
Barley	162,557	529,163	366,606
Rye	3,276	14,431	11,155
Flax	1,471	131,817	130,346
Potatoes	25,611	51,129	25,518
Other field roots	2,154	12,395	10,241
Forage crops	60,496	49,656	10,840
Totals	3,584,421	8,091,681	4,507,260

The areas of wheat and barley have doubled in six years, the areas of oats and rye have trebled, and the areas of all the principal field crops have more than doubled, their increase being 126 per cent. The area of summer-fallow land sown to fall wheat in 1906 was 13,889 acres, and to spring wheat 1,115,830 acres.

The number of occupied townships in the three provinces (including parishes) increased from 2,415 in 1901 to 4,449 in 1906, and Indian reserves increased in the same period from 81 to 88. The number of cities, towns and incorporated villages in the three provinces in 1906 was 184.

The Canada Year Book, 1905, was brought out during the year. This is the first volume in the second series of Canadian statistical abstracts, and is confined to statistics of the Dominion for the period since the federal union. A record of public events of the year is a feature of the new series, and comparative tables of information contained in departmental and census reports show the progress of the Dominion from year to year and period to period. This year book is not intended to be an exhaustive treatise of statistics. It is an official handbook of events and tables that present in brief, orderly and sequent arrangement the official records of the country contained in the scores of bulky volumes in which the original documents are printed. This is the purpose of every handbook, which has in a wide sense the same relation to the

public interests and affairs of a country as the general statement or balance sheet of a counting-house or other business establishment has to its ledger accounts. In scope and extent the 328 pages of tables in the Canada Year Book compare favourably with the 392 pages in the statistical year book of France, the 420 pages in the handbook of Austria-Hungary, the 650 pages in the statistical abstract of the United States, the 424 pages in the statistical year book of Belgium, the 369 pages in the statistical abstract of the United Kingdom, the 360 pages in the British statistical abstract for foreign countries, the 444 pages in the statistical abstract for the British colonies and possessions, and the 220 pages in the statistical abstract for the British Empire. All these are strictly what they profess to be, namely, a summary of comparative statistics for the several countries extending over a series of years.

Eleven thousand copies of the Canada Year Book, 1905, have been printed in English and 2,000 in French. About 8,900 copies of the English edition have been distributed during the year, which is 2,000 more than the whole distribution of the previous volume to the present time.

A bulletin has been prepared and printed during the year on the wage-earners of Canada by occupations, comprising 105 pages of tables and 28 pages of introduction. Statistics are given for 661,485 males and 153,445 females at regular and extra employment in 1,621 kinds of occupations during the last census year, and the aggregate wages for the year are shown to be $286,534,850.

The compilation of returns of the industrial establishments of the Dominion will be finished early in May. These statistics will show that great progress has been made in manufactures during the past five years, both in the amount of capital and the number of workmen employed and in the value of production.

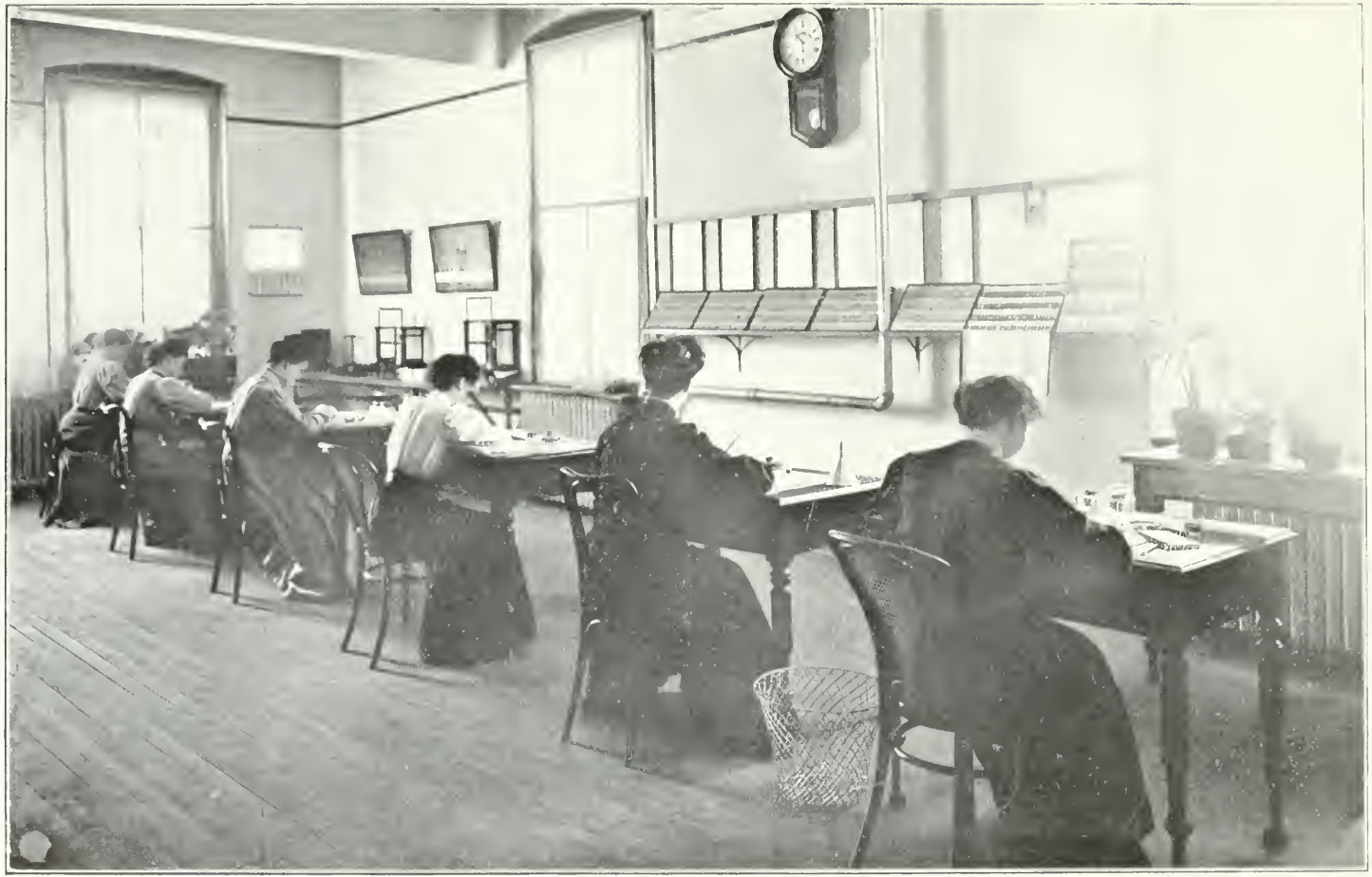
The Dominion tables of criminal statistics for 1905 are in the hands of the printer, and the volume should be in type before the end of April. The tables for 1906 are under way, and the staff on this work having been strengthened, it is hoped that the annual volume will hereafter be brought out speedily following the close of the statute year for this class of statistics.

Preparations are now being made for taking through the post office a census of live stock, and the principal field crops of Ontario, Quebec, New Brunswick, Nova Scotia and Prince Edward Island for the season of 1907.

The whole respectfully submitted.

SYDNEY A. FISHER,
Minister of Agriculture.

Seed Laboratory—Section for germination tests.



Seed Laboratory—Section for purity tests.

PUBLIC HEALTH.

No. 1.

REPORT OF THE DIRECTOR GENERAL OF PUBLIC HEALTH.

(F. Montizambert, I.S.O., M.D.Ed., F.R.C.S.E., D.C.L.)

March 31, 1907.

Sir,—I have the honour to submit this my report as Director General of Public Health from November 1, 1905, to this date.

The most important public health event during this period has been the passing in June last of 'An Act respecting Leprosy.' By this Act the government of Canada, already seized of the administration of the Leper Lazaretto at Tracadie, N.B., has assumed control of the Leper Lazaretto at Darcy Island, B.C., with the administration of leprosy generally throughout the Dominion of Canada. And this administration is to be by and subject to the direction and control of the Minister of Agriculture.

The usual threatenings of epidemic disease have continued since my last report.

Strict measures, ordinary and special, have therefore been approved by you for the sanitary protection of the country.

Circulars of warning and instruction were issued from time to time to the regular quarantine officers and to the customs officers, who are also ex-officio quarantine officers at the unorganized maritime and inland ports.

Frontier inspections for smallpox at threatened ports of the international border, and extra inspections at some of the maritime ports, have been maintained as the conditions to the south of us have seemed to require.

The British Medical Association met in Toronto in August last, the second time only that that association has been convened at any place outside the British isles. There were over 2,000 members registered as present, besides many invited professional guests from the United States. Your Director General of Public Health had the honour of being appointed President of the Section of State Medicine.

The Canadian Medical Association also met in Toronto in August, and the American Public Health Association in Mexico, Mexico, in December, 1906. At that meeting the following resolution was passed:—

'*Federal Departments of Health.*—Whereas, the American Public Health Association is of the opinion, and has heretofore so expressed itself, that public health matters confronting the four countries embraced in this association can only be adequately administered by extending the powers and duties of their several chief executive and administrative health officers; and whereas this association believes that such questions can only be satisfactorily dealt with by the establishment of a national department of health, with a cabinet minister at its head, in each country.

'Therefore, this association, with a view to prosecute so desirable an end, creates a committee consisting of three members from each of the four countries represented in the association, and to be nominated by the president, the first-named member for each country to be chairman of that subcommittee, and the chairman of the subcommittee of the United States to be its general chairman. This committee shall formulate what in the opinion of the association should be the extent of the work, powers, and duties of a national department of health, and the subcommittee of any of the

four countries shall take any steps deemed practicable by it to carry out the purpose of this resolution, and to this end be empowered to enlarge its committee as it may deem proper.'

The arrival at Victoria and Vancouver, B.C., of over 2,000 Hindus last year marks a new element in quarantine and public health work. Coming as they do from India, they increase the threatening introduction of plague, cholera and leprosy, all of which diseases are widespread and persistent in that country.

The Public Health service has to deplore the loss of two most efficient officers, Dr. J. Macdonald, quarantine officer of Chatham, N.B., who died at the age of 54, after over 22 years' service; and Dr. G. C. Jones, assistant at Halifax, N.S., who resigned on accepting promotion in the Militia Medical Service.

GROSSE ISLE, QUE.

Vessels inspected at this station: 402 at Grosse Isle, and 34 at its sub-station of Rimouski. Number of persons inspected, 114,799.

Sixty-four vessels arrived with infectious disease.

The admissions to hospital were 609. They included cases of smallpox, scarlet fever, measles, diphtheria, chicken-pox and enteric fever.

The deaths reported as having occurred during the voyage numbered 12.

The deaths in hospital were 10.

The additions to the administration building in the western division now under construction, and to the laboratory and steam laundry near the hospital for which provision has now been made in the estimates will fill much felt wants.

The carrying out of the western wharf into deep water so that infected vessels might come to it for immediate treatement and disinfection continues to be a matter that is of the greatest importance in the interest of the shipping and the passengers.

The approaching completion of the new quarantine steamer *Alice* is being awaited with great interest.

The question of the replacing of the old wooden detention sheds, which date from 1832 and 1848, by brick buildings with modern appliances becomes more and more urgently pressing each year.

HALIFAX, N.S.

Vessels inspected, 402. Persons inspected, 94,632.

Nineteen vessels arrived with infectious disease.

Thirteen vessels reported deaths during the voyage.

The admissions to hospital were 26. They included cases of smallpox, chicken-pox, diphtheria, scarlet fever and measles.

One death occurred from smallpox.

A new inspecting boat is much needed for this station.

Dr. Guy Carleton Jones, the very efficient medical assistant at this station, has resigned upon accepting promotion in the Militia Medical Service.

He has been replaced by your appointment of Dr. J. J. Doyle.

ST. JOHN, N.B.

Vessels inspected, 310. Persons inspected, 41,882.

Twelve vessels arrived with infectious disease.

The admissions to hospital were 76. The diseases were scarlet fever, diphtheria, measles, cerebro-spinal meningitis, and chicken-pox.

A larger steam sterilizer and a deep-water wharf are the most pressing needs at this station.

SYDNEY, C.B.

Vessels inspected, 111.
No quarantinable disease presented itself.
An artesian well has been sunk for a water supply.

LOUISBURG, C.B.

Vessels inspected, 29.
No quarantinable disease.

CHATHAM, N.B.

Vessels inspected, 69.
No quarantinable disease.
Dr. J. M. Baxter has been appointed by you to replace the late Dr. Macdonald.

CHARLOTTETOWN, P.E.I.

Vessels inspected, 14.
No quarantinable disease.
The roadway to the quarantine buildings at Keppoch has been completed, and the difficulty of access has thus been obviated.

WILLIAM HEAD, B.C.

Vessels inspected, 254.
The Asiatic immigration has again increased, the Japanese emigrating from their country more freely than while the war lasted, and a considerable Hindu immigration having set in. Of these people, 2,453 have arrived during the period covered by this report.
In one case of leprosy and one of enteric fever the diagnosis was definitely established in the laboratory.
The new quarantine steamer *Madge* is approaching completion, and promises to be very satisfactory.

VICTORIA, B.C.

Vessels inspected, 4.
No quarantinable disease.

VANCOUVER, B.C.

Vessels inspected, 3.
No quarantinable disease.

TEMPORARY FRONTIER AND COAST INSPECTION.

In addition to these regular stations, you have given the country the protection of extra inspecting officers at the following points where, from time to time, peculiar threatenings of disease seemed to make its importation most to be feared:—In Ontario: Owen Sound, Sault Ste. Marie, Thessalon, Bruce Mines and Fort Francis. In Saskatchewan: North Portal. In British Columbia: Gateway and Kingsgate, Rossland, Grand Forks, Greenwood, Huntingdon and Blaine, with temporary inspection of all Puget Sound vessels at Victoria and Vancouver.

THE LEPER LAZARETTO, TRACADIE, N.B.

There are now at this institution 16 inmates, 9 males and 7 females. One death has occurred during the period covered by this report.

Chaulmoogra oil continues to produce satisfactory results, especially in the early stages of the disease, and even in advanced cases it alleviates suffering and prolongs life.

The next season is to see the installation of a new 'laveuse-disinfecteuse' for the steam disinfection and washing of clothes, &c., at this lazaretto.

THE LEPER LAZARETTO, DARCY ISLAND, B.C.

There are now eight lepers at this lazaretto, all Chinese males. Their care was taken over by you from the government of British Columbia after the passing by the parliament of Canada of the Act respecting leprosy in June last.

The systematic use of chaulmoogra oil has been introduced here also. It is as yet too soon to expect any marked results.

LEPROSY GENERALLY.

By the Act respecting leprosy passed last summer the government of Canada has accepted the administration of leprosy throughout the Dominion of Canada.

PUBLIC WORKS (HEALTH) ACT.

The work under this Act having increased, and being likely still further to increase, a second inspector was appointed in June last. The inspection field was divided into two, with Winnipeg as its centre.

Insufficient compliance with the requirements of the Act and Regulations being found somewhat widely in the west, placards giving extracts from them are being prepared, and will shortly be issued for each camp. As soon as they are posted there should no longer be ignorance on these subjects either amongst the district medical officers or amongst the workmen.

The territory from Winnipeg east to the Atlantic ocean, Mr. C. A. L. Fisher, Inspector.—Diphtheria and enteric fever were the diseases that occurred. Mr. Fisher reports that on his several tours of inspection of the public works of the Dominion in his district he found the medical service given to be more numerous and complete, and the sleeping quarters and boarding of the men to be fully equal to the very good conditions in that way reported in his last report.

The territory west of Winnipeg to the Pacific ocean.—Dr. T. F. Chamberlain, inspector, appointed in June, 1906. He reports conditions good in some camps, but that the greater number of camps do not as yet meet the requirements of the Health Act.

It is trusted that the results of Dr. Chamberlain's first season's work and the posting of extracts from the regulations in all camps will this season lead to a more satisfactory condition of affairs.

I have the honour to be, sir,

Your obedient servant,

F. MONTIZAMBERT, I.S.O., M.D.Ed., F.R.C.S.E., D.C.L.,

Director General of Public Health.

The Honourable

The Minister of Agriculture,

Ottawa.

No. 2.

(G. E. Martineau, M.D.)

Grosse Isle, Quebec, March 31, 1907.

Sir,—I have the honour to submit this my annual report of the St. Lawrence quarantine service from November 1, 1905, to March 31, 1907, covering a period of seventeen months.

There were 402 vessels examined at this station during that period of time, being an increase of 42 as compared with last year. Of these only five were sailing vessels.

The total number of persons inspected was 114,799, being an increase of 16,658, as compared with last year.

They were divided among the different classes of passengers, as follows:—

First cabin, 3,225; second cabin, 19,333; steerage, 61,606; cattlemen, 1,748; crews, 28,410; stowaways, 477.

It is more necessary than ever to call attention to the large number of stowaways arriving each year. Among those reported this season, a very large percentage were foreigners, who, along with those of British descent, are most undesirable people, many being diseased and most of them paupers.

Infectious disease was discovered or reported on 64 different occasions on the following vessels, named in the order of their first arrival at this station:—

SS. *Canada, Dominion, Numidian, Lake Manitoba, Sarmatian, Southwark, Mongolian, Montezuma, Hibernian, Monterose, Corinthian, Lake Champlain, Kensington, Sicilian, Lake Erie, Montreal, Lord Charlemont, Pomeranian, Carthagenian, Lake Michigan, Ionian, Ottawa, Cervona, Virginian, Mount-Temple, Virginian* (Allan), *Devona, Monmouth, Tunisian* and *Empress of Britain.*

The diseases so discovered or reported were smallpox, scarlet fever, measles, diphtheria, chickenpox, parotiditis and typhoid fever.

Smallpox.—SS. *Cervona*, Captain Stooks, sailed from Shields June 19, with 15 cattlemen, 39 crews and 2 stowaways, arrived at Quarantine at 11.40 p.m., June 30.

One of the cattlemen complained of fever, chills, severe headache and pain through the body. On examining him carefully we found a very suspicious rash that proved later to be smallpox.

That case was immediately removed to the smallpox hospital at Quarantine, and all those who had been in communication with him on board were landed for quarantine and observation.

Everybody on board having been vaccinated and the compartment occupied by the sick and by the other cattlemen having been thoroughly disinfected, the vessel was released at 4.45 p.m. on July 1.

No other case of smallpox having developed among those detained under observation, they were released, and left the station on July 18.

The patient having fully recovered, was discharged from smallpox hospital at Quarantine on July 31.

On several occasions parties arrived at Quarantine who had not been vaccinated and who had refused to allow the ship's surgeon to do so. However, when regulations were shown and explained to them, they allowed your quarantine officer to do so.

I beg to call attention to the very unsatisfactory manner in which the regulations concerning vaccination are carried out. This inspection is only made the day previous to arrival at Quarantine, is usually made by stewards, who issue 'Protection cards,'

and we have quite often picked out cases possessing these cards who had never been vaccinated (at least successfully). It is quite a practice, we understand, for qualified passengers to obtain cards of protection, to pass these over to unqualified persons who wish to avoid vaccination.

I would respectfully advise following the method of the United States, and have each ticket endorsed by the ship's surgeon, and would also recommend that question No. 10 be changed to read: 'Have you personally satisfied yourself that each of the steerage passengers on board has been successfully vaccinated.'

I would also require the inspection of vaccination to take place immediately on leaving port.

Deaths during the voyage were reported on twelve different occasions, three of these were suicides, eleven being from diphtheria, delirium tremens, tuberculosis, heart failure, tonsilitis, emphysema and five from broncho-pneumonia.

This year has been one of the busiest ones for a long time at this Quarantine. There were six hundred and nine admissions at the hospital, and we had up to one hundred and seventy-seven persons at the same time at the hospital, suffering from different diseases.

The deaths numbered ten, two from diphtheria complicating scarlet fever, one from nephritis, complication of scarlet fever, six from scarlet fever and one from diphtheria.

There was also landed for burial at Quarantine the body of one child who had died from broncho-pneumonia on SS. *Mount-Temple.*

Quarantine Staff.—Dr. E. Belisle continued to be in charge of the Rimouski sub-station. I visited this advanced post, and coming up from thence on the mail steamer made a detailed inspection between Rimouski and Grosse Isle.

Improvements and Requirements.—The great deficiency and requirement at this quarantine continues to be that of a deep water wharf, the necessity of which was recognized and approved by the different companies of steamers carrying passengers.

I understand that the honourable the Minister of Public Works on one of his visits to the station, decided to have that improvement carried out, and in fact at two different sessions there were certain amounts of money voted for that purpose, but, for reasons unknown to me, nothing has been done yet.

At the two last sessions different amounts were also voted for the erection of a steam laundrying disinfecting apparatus, and for the extension of the eastern wharf, but for some reason or another these works have not been commenced yet.

The administration building at the western end is now under construction.

The much-needed second steamer has not yet been completed, but, I have reason to believe, that she will be ready early next season.

A new detention building for the accommodation of the second cabin passengers is required at the western end, also three new buildings, one for a laboratory near the hospital, one for the hospital steward, and the other one for the baker.

There are still some other works and repairs absolutely necessary, the list of which is in the hands of the Public Works Department and of our department.

All of which is respectfully submitted.

I have the honour to be, sir,

Your obedient servant,

G. E. MARTINEAU, M.D.,

Medical Superintendent of the St. Lawrence Quarantine Service.

The Honourable
The Minister of Agriculture,
Ottawa.

No. 3.

(N. E. Mackay, M.D., M.R.C.S.)

Halifax, N.S., March 31, 1907.

Sir,—I have the honour to submit my report for the seventeen months ended March 31, 1907.

The work at this station was uneventful during the seventeen months just closed. The port was visited once by one of the severer forms of quarantinable diseases. One of the minor diseases was found on the following steamers:—

SS. *Tunisian,* from Liverpool, December 7, 1905, measles (1).
SS. *Corinthian,* from Liverpool, December 18, 1905, measles (1).
SS. *Parisian,* from Liverpool, December 24, 1905, measles (1).
SS. *Numidian,* from Liverpool, January 16, 1906, measles (1).
SS. *Parisian,* from Liverpool, January 27, 1906, diphtheria (1).
SS. *Southwark,* from Liverpool, February 24, 1906, measles (4).
SS. *Siberian,* from Liverpool, March 17, 1906, chickenpox (1).
SS. *Numidian,* from Liverpool, March 25, 1906, measles (1).
SS. *Southwark,* from Liverpool, March 31, 1906, measles (2).
SS. *Virginian,* from Liverpool, March 29, 1906, measles (2).
SS. *Kensington,* from Liverpool, April 16, 1906, measles (1).
SS. *Norseman,* from Liverpool, May 25, 1906, measles (2).
SS. *Dominion,* from Liverpool, November 19, 1906, chickenpox (2).
SS. *Empress of Ireland,* from Liverpool, November 22, 1906, measles (1).
SS. *Ionian,* from Liverpool, December 15, 1906, measles (1).
SS. *Dominion,* from Liverpool, December 23, 1906, measles (1).
SS. *Victorian,* from Liverpool, February 23, 1907, measles (2).
SS. *Dominion,* from Liverpool, March 3, 1907, measles (1), scarlet fever (2).
SS. *Canada,* from Liverpool, March 15, 1907, measles (1).

I was obliged to allow the two cases of scarlet fever and one case of measles ex. SS. *Dominion,* from Liverpool, March 3, to proceed to Portland, although booked for this port. It was impossible to get them to the station because of the ice in Eastern Passage, and our boat is not fit to go outside around Trump Cap except in very mild weather, and then at high tide. Indeed no boat can get to the station by this route with southerly or southeasterly winds, and there is no other way to get there. Then again there were twelve people to look after, and they could not all be accommodated in the infectious disease hospital in the city, and there was no other place to put them in, so I allowed them to proceed to Portland, and notified the quarantine officer there by telegram.

Our experience with quarantine work this season has amply demonstrated the fact that Lawlor's Island is not well or suitably located for winter work. It is all right for summer work, and the bulk of our work will always be in winter. Immigration in summer is by the St. Lawrence chiefly, and in winter by this port. It is doubtful, therefore, whether it is the part of wisdom to continue spending money improving the station at Lawlor's Island after the experience we have had this season.

The SS. *Pomeranian* arrived from London and Havre on February 21, with one of the steerage passengers sick with smallpox. This man had been ailing and confined to his room the entire voyage, and did not therefore come in direct contact with any except the four who occupied the apartments with him. Once it was ascertained that

he was suffering from variola he was isolated in the hospital and every possible precaution taken to save the others from infection. The ship had 276 persons on board, classified as follows: 28 second-class, 170 steerage, 2 cattlemen, and 76 crew. As soon as the disease was diagnosed, the ship's surgeon vaccinated all on board who had not been vaccinated within seven years; but as he had no way to fix the time of previous vaccination, except the *ipse dixit* of the persons interested, which in these cases is always unreliable, he should have vaccinated all on board.

The vessel was sent to the station and disinfected with sulphur dioxide, mercuric chloride solution 1 in 800, and formaldehyde, and released. The 170 steerage passengers were landed with their effects, and detained for 18 days in quarantine, as were also all those on board known or suspected to have come in any capacity whatever in contact with the sick man. All these were bathed and their clothes and effects disinfected in the usual way. One immigrant refused vaccination.

The small pox patient died suddenly during convalescence from heart failure.

Deaths were reported to have occurred on the following ships on their voyage to this port:—

S.S. *Dominion,* December 5, 1905, acute meningitis (1).

SS. *Dominion,* January 6, 1906, fractured skull (1).

SS. *Corinthian,* January 24, 1906, measles (1).

SS. *Pretorian,* February 11, 1906, acute meningitis (1).

SS. *Corinthian,* February 27, 1906, lost overboard (1).

SS. *Virginian,* March 29, 1906, chronic bronchitis (1).

SS. *Canada,* April 6, 1906, chronic diarrhœa (1).

Brigantine *Down,* April 8, 1906, tumour of stomach (1).

SS. *Corinthian,* April 12, 1906, pneumonia (1).

SS. *Pretorian,* April 24, 1906, measles (1).

SS. *Empress of Ireland,* from Liverpool, November 22, 1906, heart failure (1).

SS. *Tunisian,* from Liverpool, March 3, 1907, lost overboard (1).

SS. *Virginian,* from Liverpool, March 10, 1907, lost overboard (1).

There were 402 vessels inspected during the seventeen months ended March 31, 1907.

The number of persons examined was 94,632. They were classified as follows: Cabin, 2,874; intermediate, 15,007; steerage, 50,797; crew, 25,658; cattlemen, 338.

There were 26 cases of sickness treated at the station, and all of these, with the exception of 3, were cared for in the infectious disease hospital in the city.

In winter, the buildings at the station, not having fire in them continuously, are cold and chilly, and unfit for the reception of the sick. I therefore sent them to the infectious disease hospital in the city, where comfortable quarters are always available for a few (we had only a few) at reasonable rates. This arrangement I fear may have to be continued the coming winter, as our own hospital is not likely to be ready for occupation. The delay in the completion of the hospital is largely due to the blundering of the architects, who failed to provide for the heating of the building in the original plans, and strange to say, this oversight was not discovered until the building was about finished. Then again, there is no water available for the hospital.

I have already brought to your attention the character of some of the work performed, and material used in this building.

I have again to bring to your attention the need of a new steamer, for the quarantine service of the port. The boat we have is old, unsafe and unsuitable for the work of this station. To carry a person sick with one of the infectious diseases in her, unprotected from the winter weather, a distance of four miles, is wrong. It should not be done. The lives of the sick should receive some consideration.

Mr. C. Thomson Schmidt, government inspector of steamers, has notified me that a new boiler must be put in her immediately after the winter work is finished. Under date October 25, 1906, he reports to me as follows:—

'I would respectfully beg to draw your attention to my last report of the boiler of the D.G.S. *Argus*. Will you kindly inform me whther you have brought this matter before your department, regarding the necessity of having a new boiler fitted in the tug *Argus* this year, the patches fitted have so far proved successful, but I do not consider that the boiler is in a condition to be relied upon, for the very important duties your vessel has to perform.

'When in conversation with you, you led me to understand that in all probability a new vessel would be placed upon this station within a year. I have heard nothing further in the matter, and therefore beg to draw your attention to the necessity of providing a new boiler for this vessel, to be installed upon completion of the present winter service.'

To my mind it is not worth while installing a new boiler in this old vessel. What we want and should have is a new steamer, properly fitted out for our work.

An inspecting station ashore and a wharf for our boat are necessary equipments for an efficient service. The best location in the city for such a station is the lumber yard, and it should be acquired at once for this purpose, by the department. There is a wharf there which could be made suitable for our boat easily, without very great outlay, and the vacant houses in the yard could be made, at a small outlay, tenantable, and the crew of the boat could live there and be available for duty at all hours, day and night.

The hospital when completed will supply a much needed want. An electric lighting plant is badly needed and should be installed without delay. The wharf will need extensive repairs early in the spring. Estimates of the cost of the necessary new works, repairs and improvements will be forwarded, at an early date.

The disinfecting plant and tank have been overhauled and repaired, and are at present in good condition for the winter's work.

Since my last report, my assistant, Dr. Jones, resigned, and Dr. J. J. Doyle has been appointed to fill the vacancy, and since his appointment he has taken considerable interest in his work, and will, I have no doubt, prove himself to be a good officer.

All of which is respectfully submitted.

I have the honour to be, sir,

Your obedient servant,

N. E. MACKEY, M.D., M.R.C.S.,

Quarantine Officer.

The Honourable

The Minister of Agriculture,

Ottawa.

No. 4.

(J. H. Scammell, M.D.)

St. John, N.B., April, 1907.

Sir,—I beg leave to submit the following report on the work of the station, covering 17 months, from November 1, 1905, to March 31, 1907.

During this period 310 vessels were inspected, carrying 41,882 persons.

A detailed statement is attached.

I am, sir,

Your obedient servant,

J. HENRY SCAMMELL,

Acting Quarantine Officer.

The Honourable

The Minister of Agriculture,

Ottawa.

No. 5.

(Horace Rindress, M.D.)

North Sydney, March 31, 1907.

Sir,—I have the honour to submit my report for the seventeen months ending March 31, 1907.

During this period 111 vessels were inspected, 90 steamships, 54 transatlantic, 21 sailing vessels, 44 cisatlantic.

No quarantinable disease was found on any of these vessels, and all were inspected immediately on arrival with the usual care.

The buildings at the station are in fairly good condition, except the caretaker's house, which is in need of some repairs.

The new wharf is satisfactory, but the approach from the station to the wharf has not yet been completed. An artesian well has been sunk, and I think it will furnish a good supply of water.

I have the honour to be, sir,

Your obedient servant,

HORACE RINDRESS, M.D.

The Honourable
The Minister of Agriculture,
Ottawa.

No. 6.

(F. O'Neil, M.D.)

Louisburg, March 31, 1907.

Sir,—I have the honour to submit herewith my report for this quarantine station for the seventeen months ended March 31, 1907.

The total number of vessels examined for the above period was 29, with 673 men.

I would again beg to suggest that some provision be made for suitable quarantine buildings for this station. This should be done as soon as possible.

I have the honour to be, sir,

Your obedient servant,

FREEMAN O'NEIL, M.D.,
Quarantine Officer.

The Honourable
The Minister of Agriculture,
Ottawa.

No. 7.

(Peter Conroy, M.D.)

Charlottetown, P.E.I., March 31, 1907.

Sir,—I have the honour to submit my report for the seventeen months ended on March 31, 1907.

No quarantinable disease was brought to this port during the period above mentioned.

Inspections of vessels arriving from points beyond the line of exemption numbered fourteen.

The roadway to the hospital is now in first class order, a sufficiency of land having been purchased for the necessary widening of the road, and a convenient bridge constructed over the tide-washed portion.

On the authority of the Minister of Agriculture, as expressed in a telegram received on the 7th instant, from the Director General of Public Health, the hospital was handed over to the civic authorities for the reception of cases of smallpox, an outbreak of that disease having occurred in different parts of the province. As yet no case has been admitted, and it is not likely that there will be any, as the disease is now almost completely stamped out.

I have the honour to be, sir,

Your obedient servant,

PETER CONROY, M.D.,

Quarantine Officer.

The Honourable
The Minister of Agriculture,
Ottawa.

No. 8.

(A. T. Watt, M.D.)

Victoria, B.C., April 1, 1907.

Sir,—I have the honour to submit the following report regarding transactions at William Head quarantine station for the period of seventeen months, from November 1, 1905, to March 31, 1907.

During this period there were 254 vessels inspected. In comparison with previous months, there has been a slight increase in the number of vessels arriving. This may be attributed to the establishment of a new line to New Zealand and to an increase in the volume of shipping coming from Panama and Mexican ports. The work on the Panama canal and the construction of a railway across Mexico from the Gulf to the Pacific are enterprises which have required the bringing in of supplies by the ship load. The completion of this railway means the opening of a new trade route so that

there will thus be a new point on the coast from which steamers will come to British Columbia ports. Steamers are now in fact on the way, which will inaugurate regular sailings from Mexico to British Columbia and return. The number of steamers coming from Oriental ports has increased since the cessation of the war between Russia and Japan, and larger and better steamers are constantly replacing the older vessels.

The number of Asiatic steerage passengers has considerably increased over the number coming in previous months. This is more particularly the case with the Japanese, which people while the war lasted, did not emigrate in any numbers. A new feature in the immigration here has been an unprecedented influx of Hindus. In the period of seventeen months covered by this report 2,453 arrived. These people mostly come from the northern districts of India and tranship at Hong Kong. This country has been brought, therefore, through the coming of these people, into communication with India, where infectious diseases, especially bubonic plague and cholera, are most prevalent.

As in previous years, all Asiatic steerage passengers have been given a bath and have had their clothing disinfected at ports of departure. This routine has also applied to the Asiatic members of the crew.

The passengers examined were 5,358 in the cabin, and 16,671 in the steerage, of the latter 4,643 were Chinese, 8,269 (including 1,015 women) were Japanese, and 2,453 were Hindus. Chinese members of crew numbered 8,237, and the Japanese were to the number of 2,930.

Cases of smallpox, typhoid fever, scarlet fever, and beri-beri, have been treated in the hospitals. Cases of measles and dysentery were also met with, but as the patients were convalescing and were properly isolated under care of ship surgeon, they were not removed to shore.

Smallpox was found on one vessel arriving here, and on three, reports were given of the disease having occurred en route. The SS. *Empress of India,* from Hong Kong, landed one of the Chinese steerage at Kobe, was there disinfected and reached here without further case. The vessel was held on arrival until the usual period of incubation had elapsed from time of disinfection at Kobe, being released March 1, 1906. The SS. *Empress of China* was treated in similar fashion on account of having landed a Chinese fireman with smallpox at Nagasaki. This vessel was given pratique April 18, 1906. The British SS. *Teucer,* arriving here May 23, 1906, reported a death having occurred from smallpox before reaching Singapore. Vessel was there disinfected and completed voyage without other cases developing. On March 17, 1906, the SS. *Tartar* reached William Head, having one of the steward's department in hospital with smallpox. The case had been isolated for eight days, but had not been discovered early, and the infection was already scattered, as three subsequent cases amongst the crew afterwards made manifest. Two of these cases occurred amongst the Chinese crew during the time they were detailed in quarantine and the third case was one of the members of the European crew, the case developing on board the steamer in Vancouver. The European members of the crew were not considered to have been exposed to infection to the same extent, and after the isolation of the patient in the hospital, there was thought to be little possibility of infection, so that the period of detention for these was made to date from then. This period did not cover the contingency of exposure to infection at the time of landing of infected bedding and baggage when the ship was fumigated at William Head. But danger through this was of a minimum description for the European members of the crew, and was not thought sufficient to reckon with or to warrant the dating of their quarantine from such time. The development of the case two weeks later, however, showed that there was an unsuspected exposure at the time of the landing of the baggage, &c. The SS. *Tartar* was sent down from Vancouver on the occurrence of this case and was disinfected again before proceeding to sea.

The improvements undertaken at the quarantine during the past seventeen months have been the installation of a new 60 horse-power boiler, a second set of storage bat-

teries, and a hundred-light direct-connected generator. This generator will furnish the lights ordinarily required unless many people are in quarantine and will be much less expensive to run than the large dynamo put in for the lighting of all the station buildings. Telephones for communication between different buildings at the station have been purchased and are being put in place. The power-house has been further improved. A wooden partition has been replaced by a brick wall. The fire room has been enlarged through a new disposition of the coal bunkers. A new ward has been added to the smallpox hospital. This will be available as an observation ward or for convalescents or women. A set of bath rooms for use of physician visiting smallpox patients or for patients and nurses leaving, has also been added. The water service had a considerable amount spent on it during the past few months. The main has now been renewed wherever found necessary, and a new wire fence has been erected around the lake in the place of the rail fence most of which was burned down. Repairs were made to the copper sheathing and elsewhere on the wharfs, and preparations are now in hand for renewing part of the superstructure.

The completion of the new quarantine steamer *Madge* has been the greatest boon to the service at this station. This steamer has been constructed of steel and built to class A1 at Lloyd's. Length is 100 feet and beam 20 feet. She promises to be most staunch and seaworthy, and will easily sustain speed of 10 knots. The workmanship and finish given to this steamer reflect the greatest credit upon the builders, the Messrs. Bullen, of the British Columbia Marine Railways Company, Limited. This steamer was named, on your approval, in accordance with the suggestion made by the Director General of Public Health, that it be called after the wife of the superintendent of British Columbia quarantine. The compliment has been much appreciated.

Last August, I was given an opportunity, which was greatly appreciated, of attending the meeting of the British Medical Association in Toronto, and afterwards of visiting, in company with Dr. F. Montizambert, Director General of Public Health, the quarantine stations at Grosse Isle, St. John, and Halifax, also the lazaretto at Tracadie. The chance of seeing the arrangements at the other quarantine stations and of discussing various aspects of quarantine work with other officers, was most welcome.

By your instructions of date July 11, 1906, the lepers at D'Arcy Island, formerly under the care of the provincial government, have been taken in charge. A guardian has been placed on the island and a Chinaman with him to act as interpreter. Weekly supplies of fresh meat, fish, fruit and vegetables are sent to the island, and much is being done to ameliorate the lot of the unfortunates held there. One new case was admitted, making eight cases in all. Treatment of the cases with chaulmoogra oil is being pushed, and appropriate local applications and dressings given. Regular visits are made to the island and the general care and management of the institution given attention.

I have the honour to be, sir,

Your obedient servant,

A. T. WATT, M.D.,

Supt. B. C. Quarantine.

The Honourable,

The Minister of Agriculture,

Ottawa.

No. 9.

(W. H. K. Anderson, B.A., M.B.)

Victoria, B.C., April 1, 1907.

Sir,—I have the honour to submit the following report of the laboratory work at William Head during the period of seventeen months from November 1, 1905, to March 31, 1907.

A case of typhoid and one of leprosy were diagnosed by use of the microscope. A sample of drinking water from the butts of a sailing vessel from Antofagasta was examined for typhoid bacilli. The laboratory was used also for clinical purposes.

I have the honour to be, sir,

Your obedient servant,

HAROLD ANDERSON,

Assist. Medical Officer.

The Honourable
The Minister of Agriculture,
Ottawa.

No. 10.

(R. L. Fraser, M.D.)

Victoria, B.C., April 1, 1907.

Sir,—I have the honour to submit my report for the seventeen months just ended.

Since coasting vessels are exempt from inspection only those foreign vessels that for any reason failed to call at William Head were examined here.

Four foreign vessels were inspected and no contagious disease found on them.

I have the honour to be, sir,

Your obedient servant,

R. L. FRASER, M.D.,

Inspecting Physician.

The Honourable
The Minister of Agriculture,
Ottawa.

No. 11.

(L. N. Mackechnie, M.D.)

Vancouver, B.C., April 2, 1907.

Sir,—I have the honour to submit this my report for the past seventeen months.

Three vessels have been examined, and no cases of contagious or infectious disease has come under my inspection.

I am informed by the city health officer that there are two cases of smallpox in the city at present.

I have the honour to be, sir,

Your obedient servant,

L. N. MACKECHNIE,

Quarantine Officer.

The Honourable
The Minister of Agriculture,
Ottawa.

No. 12.

(A. C. Smith, M.D., M.A., C.M.)

Tracadie, N.B., March 31, 1907.

Sir,—I have the honour to submit for the information of the department the following report on the Tracadie lazaretto for the seventeen months ended on this date.

There are registered to-day sixteen inmates—nine males and seven females. Included in this number is the patient referred to in my last report, in whom an apparent cure has been effected, and who remains with his family, at his home, under surveillance. No recurrent symptoms have yet presented themselves.

Classifying the remaining patients, we have six in the first stage of leprosy, five in the second, and four in the third, the final, stage. Three forms clinically are fairly distinguishable—the macular or eruptive, the anaesthetic, and the tubercular. One form usually shades slightly, or decidedly, into another.

Of those on our register eleven are of French, three of Icelandic, and two of English origin. The ages of the patients vary from twelve to sixty-four years. One patient died since the date of my last report, and one was admitted from a neighbouring province.

The past year has been unattended with events other than those of a routine nature. During the winter months there was much intercurrent illness among the inmates, necessitating constant attention on the part of the nurses and the physician. Notwithstanding the repulsive and distressing nature of their disease, lepers cling to life, and when ailing are eager for medical care and treatment.

I have again to report that chaulmoogra oil, in combination, is being freely used, and with beneficial results. On March 20, 1905, a patient was admitted to the lazar-

etto showing well-marked leproic symptoms. I have reason to believe that she had contracted the disease some years ago while attending a leprous relative who refused to enter the lazaretto. This woman began the use of chaulmoogra oil, strychnia, creolin, frequent baths, &c., immediately on admission. The macular patches and other symptoms have already disappeared. I cannot yet advise her discharge, as a too hasty removal from the institution would probably lead to discontinuance of treatment, and a return of the disease. I believe that chaulmoogra oil, in combination, will cure leprosy if begun before serious inroads have been made on the constitution, and if maintained long enough. Even in advanced cases it mitigates the sufferings, keeps hope alive, and prolongs life.

For some time past we have used ichthyol, in the form of ointment, for ulcerating surfaces, and often with surprisingly good effect. An eucalyptus compound, used as a bath preparation, is being used in the leper home in Hawaii with very beneficial results. I have made application for the formula, and shall make use of it in the lazaretto.

The careful segregation of our lepers during the past few years has led to a notable diminution. All known cases are promptly removed to the lazaretto. Only three suspected cases remain outside. Over these I keep a constant supervision.

With the exception of one case, which does not yet come under sections 7 and 8 of the 'Act respecting Leprosy,' leprosy no longer exists in Cape Breton.

I have the honour to be, sir,

Your obedient servant,

A. C. SMITH, M.D.

The Honourable
The Minister of Agriculture,
Ottawa.

No. 13.

(Chas. A. L. Fisher, J.P.)

March 31, 1907.

Sir,—I have the honour to submit this my report for the seventeen months ended March 31, 1907, as Public Works (Health) Inspector, for the territory, from Winnipeg east to the Atlantic ocean.

During that period I have personally visited and inspected all such works covered by the Public Works (Health) Act, 1899, as have in any way been brought to my notice.

The term has again been an exceptional one, in the almost general non-appearance of contagious and infectious diseases among the men employed on the various public works of the Dominion, coming under my inspection, there being no outbreaks of smallpox, and only five cases of diphtheria, but in the neighbourhood of Fort William, Ont., there have been a good many cases of typhoid fever in the camp hospitals, mostly developing on new arrivals on the work.

I am pleased to be able to report again, that on my several tours of inspection of the public works of the Dominion in my district for the past year, I found the medical service given to be more numerous and complete, and the sleeping quarters and boarding of the men to be fully equal to the very good conditions in that way reported last year.

The following is a detailed report of the works I have personally visited and inspected during the past seventeen months, as coming, more or less, under the regulations of the Public Works (Health) Act, 1899:—

RAILWAYS.

The number of public works coming under the regulations of the Act, in the territory east of Winnipeg, have been comprised almost exclusively of railway construction, the building of the National Transcontinental Railway, From Winnipeg to Quebec city, adding greatly to the number of those reported last year, and increasing the railway mileage of the Dominion to a considerable extent, and which will tend to open out a fine tract of agricultural land for immediate settlement.

NATIONAL TRANSCONTINENTAL RAILWAY.

This road is being built by the Dominion government, and at present two sections have been given out on contract between Winnipeg and the new Quebec bridge, and are now under construction.

I am pleased to report that on my visit to the works on said sections I found excellent hospital accommodation provided, the men comfortably housed and well fed, the camps in good sanitary condition, and a duly qualified physician as district medical supervisor over each section of camps, which could be conveniently covered by him within the requirements of the regulations.

There had been no outbreak of contagious diseases, and the health of the men had been excellent, with the exception of some cases of typhoid fever.

I give below the extent and location of camps, with other particulars of the works carried on by the various sub-contractors.

Section from Winnipeg east to junction of Grand Trunk Pacific branch, from Fort William, 245 miles. This is under contract to Mr. J. D. McArthur, of Winnipeg, about 3,000 men were employed thereon, located in thirty camps, spreading over 200 miles of the route.

J. K. McLennan, M.D., of Winnipeg, is the chief medical officer on behalf of the contractor, and has eight district medical officers, resident at various points along the route, and excellent hospital accommodation is provided where necessary.

Dugald, Man., Camps.—Charles Peterson, sub-contractor. These camps are fourteen miles from Winnipeg, and can be reached by team over a good road. Seventy-five men were employed on grading thereat, who were housed in comfortable board and tar-paper buildings and boarded by the sub-contractor.

There had been no contagious or infectious diseases, accidents or deaths, and the general health of the men, the water supply, and the sanitary conditions of the camps were good. The Winnipeg general hospitals would be used when necessary.

R. E. Davis, M.D., was the resident medical officer in charge.

Dugald, Man., Camps.—Mr. Herbert, sub-contractor. These camps are adjacent to the above, and thirty men were employed on grading thereat.

There had been no contagious diseases, accidents, or deaths, and the general health of the men, water supply, and sanitary conditions of the camps were good.

The Winnipeg hospitals were used when necessary.

R. E. Davis, M.D., was also the district medical officer of this work.

Whitemouth, Man., Camps.—W. Wardrop, sub-contractor. These camps are seven miles from Whitemouth, a station on the Canadian Pacific Railway, and can be reached by team from the latter place. One hundred and twenty-five men were employed on grading thereat, who housed and boarded themselves in shacks and tents. There had been no contagious or infectious diseases, accidents, or deaths, and their general health, the water supply and the sanitary conditions of the camps, were good.

The Winnipeg hospitals were used when necessary. Walter Scott, M.D., was the resident district medical officer of the work.

Whitemouth, Man., Camps.—S. C. Hill & Son, sub-contractors. These camps are adjacent to the last ones reported, and situated at the crossing of Whitemouth river. Forty men were employed at bridge building thereat, fifteen of whom were housed and boarded in tents by the sub-contractors, the rest being resident in the neighbourhood.

There had been no contagious or infectious diseases, no deaths, and only one accident. The health of the men, the water supply and the sanitary conditions of the camps, were good. Walter Scott, M.D., was also district medical officer of this work.

Rennie Man., Camps.—F. W. Smith, sub-contractor. Rock work of one and one-half miles. Forty men were employed thereat, housed and boarded in log huts by the sub-contractor.

There had been no contagious or infectious diseases, or deaths, and only two accidents. The general health of the men, and the sanitary condition of the camps were good. The water supply was from wells, and latrines were provided. A tent was supplied for temporary hospital use but the Winnipeg hospital was used when necessary.

J. B. Snyder, M.D., C.M., was the resident district medical officer of this work.

Rennie, Man., Camps.—Kert & Rosenstein, sub-contractors. Rock work of three and one-half miles. About ninety men were employed thereat, housed and boarded in log camps by the sub-contractors.

There had been two cases of typhoid fever, one accident, one death, and the general health of the men, the water and the sanitary conditions of the camps were good.

A tent was provided as a temporary hospital, but the Wininpeg hospital was used when necessary.

J. B. Snyder, M.D., C.M., was the district medical officer of this work.

Rennie, Man., Camps.—J. V. Welsh, sub-contractor. Rock work of five miles. One hundred and fifty men were employed thereat, housed and boarded in lumber camps by the sub-contractor.

There had been no contagious or infectious diseases, accidents, or deaths, and the health of the men and the sanitary conditions of the camps were good. The water supply was from wells, and latrines were provided.

A tent was provided for temporary hospital use, but the Winnipeg hospital was used when necessary.

J. B. Snyder, M.D., C.M., was the district medical officer of this work.

Rennie, Man., Camps.—Smith & Prindible, sub-contractors. Rock work six miles. Fifty men were employed thereat, housed and boarded in log camps by the sub-contractors. There had been five cases of pneumonia, no accidents, two deaths, and the general health of the men had been good, and the sanitary conditions of the camps fair. The water supply was from wells, and latrines were provided. The Winnipeg hospital was used when necessary.

J. B. Snyder, M.D., C.M., was the district medical officer of this work.

Rennie, Man., Camps.—S. C. Hill, sub-contractor. Bridge and trestle work. Twenty-five men were employed, who were housed and boarded in log camps by the sub-contractor. There had been no contagious or infectious diseases, accidents or deaths, and the general health of the men, and the sanitary conditions of the camp, were good. Water was obtained from wells, and latrines were provided. The Winnipeg hospital would have been used if necessary.

J. B. Snyder, M.D., C.M., was the district medical officer in charge.

Dagiro, Man., Camps.—MePherson, McNaughton & Blake, sub-contractors. Rock work, four and one-half miles. These camps are north from Dagiro, a station of the Canadian Pacific railway, and twelve miles east from the Rennie Camps. One hundred and fifty men were employed thereon, and housed and boarded in lumber and log camps by the sub-contractors.

There had been no contagious or infectious diseases, seven accidents and two deaths, and the general health of the men, and the sanitary conditions of the camps were good. The water supply was fairly good, being obtained from wells, and latrines were provided.

A tent was in use for temporary hospital purposes, but the Winnipeg hospital was used in case of necessity.

J. B. Snyder, M.D., C.M., was the district officer in charge at these camps.

Dagiro, Man., Camps.—Anderson & Johnson, sub-contractors. Rock work six miles. These camps are adjacent to, but east from the ones last-mentioned.

Two hundred and ten men were employed thereat, and housed and boarded in lumber camps by the sub-contractors. There had been two cases of typhoid fever, two accidents, no deaths, and the general health of the men, and the sanitary conditions of the camps good. The water supply was fairly good, being obtained from wells, and latrines were provided. A tent was supplied for temporary hospital purposes, but the Winnipeg hospital was used in case of necessity.

J. B. Snyder, M.D., C.M., was the district medical officer in charge of these camps.

Kalmar, Ont., Camp.—Anderson & Johnson, sub-contractors. Rock work and grading. This camp can be reached from Dagiro, Man., or from Kalmar, Ont., being about midway north of, and between the two stations named. Thirty-five men were employed thereat, housed and boarded in log camps by the sub-contractors. There had been no contagious or infectious diseases, accidents, or deaths, and the general health of the men had been good. The Kenora, Ont., hospital was used when necessary.

H. H. Christie, M.D., of Kalmar, Ont., was the district medical officer of this camp.

Kalmar, Ont., Camps.—Oleson & Larson, sub-contractors. Rock work and grading.

These camps are fifteen miles north from Kalmar, a station on the Canadian Pacific railway, and can be reached by team to Malachi lake, and then by boat.

Three hundred men were employed thereat, and distributed over five camps, No. 1 being at Lake Malachi, No. 2 west two miles, No. 3 west four miles, No. 4 west six miles, and No. 5 at Rice lake. The men in each camp were housed and boarded by the sub-contractors, in good board and log buildings. There had been five cases of typhoid fever, one originating on the work, the remainder contracted elsewhere, but there were no other developments of contagious or infectious diseases, and there were no deaths and one accident. The general health of the men, and the sanitary conditions of the camps were good. A permanent hospital was provided at camp No. 1, but the general hospital at Kenora, Ont., would be used when advisable.

The water supply was fairly good, and taken from wells and lake. Latrines were provided at each camp.

H. H. Christie, M.D., was the resident district medical officer.

Kalmar, Ont., Camps.—Guy Campbell, sub-contractor. Rock work principally and extending five miles. There were two main camps, known as No. 1 and No. 3, No. 1 being at Otter lake, and No. 3 two miles east. Two hundred men were employed thereat, housed and boarded by the sub-contractor, in comfortable log and frame buildings. There were no contagious or infectious diseases, no deaths, and only one minor accident. The general health of the men was good, and the condition of the camps throughout excellent.

Water from wells was used for drinking purposes, and lake water for general use. Latrines were provided at all camps.

The permanent hospital at camp No. 1 was used, but the general hospital at Kenora, Ont., would be used in case of necessity. H. H. Christie, M.D., was the district medical officer of this work also.

Kalmar, Ont., Camps.—Gordon Bros., sub-contractors. Rock work principally, extending two miles. Seventy-five men were employed thereat, located at two camps,

one mile apart, and housed and boarded by the sub-contractors, in good log buildings. There had been one case of typhoid fever, and no accidents, but there was one death from suicide.

The general health of the men, and sanitary conditions of the camps, were good.

The water supply was from lake and springs, and was good. Latrines were provided at each camp. At camp No. 1 hospital quarters were provided, but the general hospital at Kenora, Ont., would be used if thought beneficial.

H. H. Christie, M.D., was the district medical officer of these camps also.

Winnipeg River Camps.—Chambers Bros., McQuigge & McCaffrey, sub-contractors. Ten miles of grading and rock work.

These camps are located fifteen miles north from Kenora, Ont., a station on the Canadian Pacific railway, and can be reached from there by boat up the Winnipeg river, to Winnipeg river crossing, thence over land one to two miles. Four hundred and twenty men were employed thereat, located in six camps, situated west of the Winnipeg river, and housed and boarded by the sub-contractors in comfortable board and log buildings.

There had been no cases of contagious or infectious diseases, with the exception of one of typhoid. There had been eighteen accidents, fourteen minor, and four fatal, the four deaths being the result of dynamite explosions.

The general health of the men, and the sanitary conditions of the camps were good.

The water supply was good, and was from lake and springs. Two latrines were provided for each camp. Temporary hospital quarters were provided, with a permanent hospital east of the McFarland river, and the general hospitals at Kenora, were used when necessary.

H. A. Abraham, M.D., was the resident district medical officer of these camps.

Winnipeg River Camps.—Dutton & McArthur, sub-contractors. Ten miles of grading and rock work. There were three camps situated east of the McFarland river, and three hundred men were employed on the work, who were housed and boarded by the sub-contractors in comfortable board and log buildings.

There had been five cases of typhoid fever, but no other cases of contagious or infectious disease. There were thirty-three accidents, and eight deaths. The general health of the men, and sanitary conditions of the camps had been fair.

The water supply was good, and two latrines were supplied for each camp. There was a permanent hospital conveniently located for the various surrounding camps, under charge of H. A. Abraham, M.D., who was the district medical officer of this work.

Winnipeg River Camps.—Dugal & Dow, sub-contractors for two miles of general construction work. There was only one camp with twenty-six men employed, who were housed and boarded by the sub-contractors in board and log buildings. There had been no contagious disease, no deaths, and one minor accident. The general health of the men, the water supply and the sanitary conditions were good. H. A. Abraham, M.D., had this camp under his charge as district medical officer.

Winnipeg River Camps.—N. Timpson, sub-contractor. There was one camp, situated four miles east of the Winnipeg river, with seventy-six men employed thereat, who were housed and boarded by the sub-contractor in lumber camps. There had been no contagious diseases, one death and four minor accidents.

H. A. Abraham, M.D., was the district medical officer of these camps.

Winnipeg River Camps.—Courtney & McRae, sub-contractors. Five miles rock and earth work. There was one camp east of Basket lake, and sixty men were employed on the work, who were housed and boarded by the sub-contractors in good log buildings. There had been no contagious diseases, accidents, or deaths.

H. A. Abraham, M.D., was the district medical officer in charge of the men.

Winnipeg River Camps.—Joe Purrica sub-contractor. Two rock cuts. There was one camp at Black river, at which twenty-five men were employed, and were housed and boarded in log buildings. There had been no contagious disease, accidents or deaths, the health of the men being good.

H. A. Abraham, M.D., was the district medical officer of this camp.

Winnipeg River Camps.—Baulf & Stinson, sub-contractors. Four miles rock and earth work. There were two camps situated on the side of a lake, and one hundred men were employed on the work, who were housed and boarded by the sub-contractors in good log buildings. There had been no contagious diseases, one dynamite accident, and two deaths. The general health of the men has been good. The permanent hospital at Dutton & McArthur's Camp was used.

H. A. Abraham, M.D., was the district medical officer of these camps.

Vermilion Bay Camps.—Kupe & Bradshaw, sub-contractors. Grading and filling. These camps are located fifteen miles north of Vermilion, a station on the Canadian Pacific railway, and can be reached by team from there. One hundred and fifty men were employed thereat, housed in log buildings, and boarded by the sub-contractors. There had been no contagious or infectious diseases. three accidents, no deaths, and the general health of the men, the water obtained, and the sanitary conditions of the camps, all first class.

As other sub-contractors were about commencing work further along the route, a permanent hospital was being established, suitable for the above and other camps.

H. L. Sims, M.D., is the resident district medical officer of this work.

Vermilion Bay Camps.—J. Nicholson, sub-contractor, No. 1, and Sharpe, Lewis Woods & Lorenston, sub-contractors, No. 2.

These two camps were temporary ones, being for men cutting and clearing right of way. Sixteen men were employed and were housed and boarded under canvas by the sub-contractors.

There had been no serious disease, accidents. or deaths, the general health of the men being excellent.

H. L. Sims, M.D., was the district medical officer in charge of these men.

Vermilion Bay Camps.—Cunningham & Nelson, sub-contractors. Forty-two men were employed on this work, and were housed and boarded in good log buildings, by the sub-contractors. There had been no contagious or infectious disease, three serious accidents, but no deaths. The general health of the men had been very good, the water supply and the sanitary condition of the camp fair.

H. K. Sims, M.D., was the district medical officer in charge of this work.

Vermilion Bay Camps.—J. Woods & Co., sub-contractors. Twenty-nine men were employed on this sub-contract, who were housed and boarded in log buildings, by the sub-contractors. There had been no contagious disease, serious accidents, or deaths, and the general health of the men had been good.

H. K. Sims, M.D., was the district medical officer in charge of this work.

Vermilion Bay Camps.—D. McDonald, sub-contractor, grading and rock work. These camps were situated four miles east of camp No. 1, first above-mentioned. Forty-five men were employed thereat, housed and boarded in log buildings by the sub-contractor. There had been no contagious disease, three serious accidents, two from falling rock, and one from a falling tree, with one death. The general health of the men, the water, and the sanitary condition of the camps, had been excellent.

H. K. Sims, M.D., was the medical supervisor.

Vermilion Bay Camps.—W. T. Parsons, sub-contractor. Rock work chiefly. These camps are situated about eighteen miles from Vermilion Bay, and can be reached by team. Three hundred and fifty men are employed, who are located in nine camps, situated on Canyon lake, and housed and boarded in good log buildings, by the sub-contractor. There have been no contagious or infectious diseases, two serious accidents, but no deaths. The general health of the men has been good, and the sanitary conditions of the camps very fair. Good water is obtained from Canyon lake, and latrines are provided for each camp. A good hospital has been established at W. T. Parson's headquarters camp.

D. G. Dingwall, M.D., is the district medical officer residing at these camps.

Vermilion Bay Camps.—Chas. Peterson, sub-contractor. Rock and sand work. One hundred and seventy-five men are employed on this sub-contract, who are located in three camps, and housed and boarded in log buildings by the sub-contractor. There have been no contagious diseases, only one serious accident, and no deaths. The general health of the men, the sanitary conditions of the camps, and the water supply, has been good. The permanent hospital at W. T. Parson's headquarters is used when necessary.

D. G. Dingwall, M.D., is the district medical officer of these camps.

Vermilion Bay Camps.—Geo. Jachetta, sub-contractor. Rock work principally. One hundred and fifty men are employed on this work, located in two camps, situated on Little Canyon lake, and are housed and boarded in good log buildings, by the sub-contractor. There have been no cases of contagious or infectious diseases, some minor accidents, and no deaths. The general health of the men, the sanitary condition of the camps, and the water supply, has been good. Latrines are provided, and the permanent hospital at Parson's head camp, is used when necessary.

D. G. Dingwall, M.D., is the district medical officer of these camps.

Dryden, Ont., Camps.—C. A. Phillips, sub-contractor, fourteen miles of rock and earth work. These camps are situated some eighteen miles north from Dryden, Ont., a station on the Canadian Pacific railway, and can be reached by team from there. Two hundred and forty-six men were employed on the work, who are boarded and housed in good log buildings, by the sub-contractor. There had been no contagious disease, six accidents, and three deaths from dynamite explosion. The general health of the men had been excellent, and the water and sanitary conditions of the camps good. A permanent hospital is established at these camps and is under the charge of John Brandon, M.D., as district medical officer.

Drydon, Ont., Camps.—P. W. McLean, sub-contractor, eight miles of earth and rock work. These camps are situated twenty-eight miles northeast of Drydon, and can be reached from there by team. One hundred and twenty men were employed on the work, who were housed and boarded in good log buildings by the sub-contractor. There had been no contagious or infectious diseases, no serious accidents, and no deaths. The general health of the men had been excellent, and the water and sanitary condition of the camps was good. Temporary hospital accommodation was provided, and the permanent hospital at C. A. Phillips' camps was used when necessary.

John Brandon, M.D., was the district medical officer of these camps.

Drydon, Ont., Camps.—Swan Swanson, sub-contractor. Eight miles of rock and earth work. These camps are situated two miles northeast from the last above-named, and can be reached by team therefrom.

One hundred and forty-five men were employed on the work, who were housed and boarded in good buildings by the sub-contractor. The general health of the men had been very good, and the water and sanitary condition of the camps, had also been good. There had been no contagious or infectious diseases, accidents or deaths. Temporary hospital accommodation was provided but the permanent hospital at C. A. Phillips' camps was used when the doctor thought it advisable.

John Brandon, M.D., was the district medical officer of these camps.

Eastern Section.—From La Tuque Village, southeast 100 miles, to junction of section of sub-contract let to Messrs. M. P. & J. T. Davis. This is under contract to Messrs. Macdonell & O'Brien, of Montreal. Fourteen hundred and twenty-five men were employed thereon, located in about twenty-five camps spreading along the route.

John McCombe, M.D., of Buckingham, Que., is the chief medical officer on behalf of the contractors, and has three district medical officers, resident at suitable points on the route, with a very excellent hospital established at Lake Masketsy, under charge of a district medical officer, nurse and caretaker, another one at St. Theele, and a third one is established in the neighbourhood of La Tuque village.

La Tuque Camps.—O'Brien & Martin, sub-contractors for grading, &c., nine to ten miles.

These camps are situated in the neighbourhood of La Tuque village, about fifty-two miles from Hervey junction, on the Great Northern railway, and can be reached by team, or by boat, when the water in the river permits.

Three hundred men were employed thereat, who were housed and boarded by the sub-contractors, with the exception of some who resided in the neighbourhood.

There had been no contagious or infectious diseases, no deaths and only one accident. The general health of the men, the water supply and the sanitary conditions of the camps were good. A tent was provided for temporary hospital accommodation, but a permanent hospital was about being established in a convenient place. Latrines were provided for each camp.

A. B. Cameron, W. J. Costello and T. Hewitt, M.D., have been appointed resident district medical officers of the camps, the latter in charge at present.

La Tuque Camps.—Jackson & Connolly, sub-contractors. There are two camps situated at Lac au Beauce, in the La Tuque district, at which forty-five men were employed, who were housed and boarded in log buildings by the sub-contractors.

There had been no contagious or infectious diseases, accidents, or deaths, and the general health of the men, the water supply and the sanitary condition of the camps, were good. Two latrines were provided, and also an hospital tent. The doctors last mentioned were the district medical officers of these camps.

La Tuque Camps.—A. Finlayson was the sub-contractor. There was only one camp, situated at Creek au Beauce, at which forty-five men were employed, housed and boarded in wooden buildings by the sub-contractor. There had been no contagious diseases or deaths, and but one accident. The health of the men, water supply and sanitary conditions were good. The aforesaid M.D.'s were the district medical officers of this camp also.

Reeds Camp.—Murdoch Bros., sub-contractors for grading rock work ten miles. These camps are situated about sixteen miles from Hervey junction, on the Great Northern railway, and can be reached from there by team.

One hundred and fifty men were employed thereat, who were housed and boarded in good wooden buildings by the sub-contractors.

There had been no contagious or infectious diseases, or accidents, one death, and the general health of the men, water supply and sanitary conditions of the camps were good, latrines being provided in each. A very excellent hospital was established at Lake Masketsy, about one mile from the camps, with access by road or water. It was provided with water-closet, bath, hot and cold water, &c., and was in charge of James Franekum, M.D., as resident district medical officer, who had a nurse and caretaker in charge.

Reeds Camp.—Kirk & Westerdale, sub-contractors for seven miles of grading and rock work. These camps are about three miles southeast from the last reported above and are reached by team. One hundred and fifty men were employed on this work, who were housed and boarded by the sub-contractors in good wooden buildings.

There had been three cases of typhoid fever, one accident, one death.

The general health of the men, the water supply and the sanitary condition of the camps, were good, latrines being provided for each camp.

The hospital at Lake Masketsy was used when necessary.

James Franekum, M.D., was the district medical officer of the camps.

Reeds Camp.—D. R. McDonald, sub-contractor for culvert building. This camp was situated on the government road, some miles southeast of the last reported. Fifty men were employed thereat, who were housed and boarded in tents by the sub-contractor.

There had been no contagious diseases, accidents or deaths, and all other conditions were good.

Dr. Franekum was the medical officer supervising the men.

Reeds Camp.—Doheny & Donovan, sub-contractors for sundry grading and rock work. These camps were variously situated north from Reeds Station, and were reached by team.

Three hundred and twenty-five men were employed on the work, housed in good wooden buildings, and well boarded by the sub-contractors.

There had been no contagious diseases, three accidents and three deaths.

The general health of the men and the sanitary conditions were good, latrines being provided for all camps. The water supply was from wells, but was only of medium quality.

The hospitals at St. Theeile or Lake Masketsy were used. James Franckum, M.D., was the district medical officer in charge.

St. Prospère Camps.—Brennan & Munro, sub-contractors for bridge building.

These camps can be reached from Batiscan, Que., a station on the Canadian Pacific railway, then by team.

Eighty-one men were empolyed by this sub-contractor, and were housed and boarded by him in tents, or in surrounding houses. There had been no contagious diseases, or deaths, three accidents, and other conditions were good.

B. Bordeleau, M.D., was the district medical officer of the men employed.

St. Prospère Camps.—McInnes & McInnes, sub-contractors for grading, &c.

These camps can be reached from Grandine, a station on the Canadian Pacific railway. Eighty men were employed on the work, who were housed and boarded by the sub-contractors in good wooden buildings. There had been no contagious diseases, accidents, or deaths, and all other conditions were good. A temporary hospital in charge of Dr. Bordeleau, at St. Theeile, and the hospital at Lake Masketsy were used.

B. Bordeleau, M.D., was the district medical officer of the work.

Section from Quebec Bridge.—Fifty miles northwest. The contract for this work was given to Messrs. Macdonald & O'Brien, of Montreal, together with the section reported above as being construeted by them, but they sublet these fifty miles to Messrs. M. P. & J. T. Davis, of Quebec, who are construeting the same, with three sub-contractors under them, Messrs. Lothain, Rainboth, Roberge & Chagnon.

Seven hundred men are employed thereon, but there are no special camps, the men living in their own homes, or boarding with residents scattered along the line.

There had been no contagious or infectious diseases and no deaths, but there were four minor accidents. The general health of the men and the sanitary conditions were good, the water supply being fair.

J. P. Lavoie, M.D., of Quebec, was the chief district medical officer, with A. Marcotte, M.D., as resident district medical officer at St. Basile, P.Q., who had hospital accommodation provided.

Grand Trunk Pacific Railway.—Branch from Fort William to junction of National Transcontinental railway, 210 miles.

Messrs. Foley Bros., Larson & Co., are the contractors, with headquarters at West Fort William, Ont., and there are twenty-six sub-contractors.

About fifteen hundred men were employed, located at thirty-four camps along the route, housed in wood buildings and boarded by the contractors. The sanitary condition on the work was good, there being latrines at each camp. The general health of the men has been excellent, with the exception that forty-two cases of typhoid developed, owing to the poor quality of the water obtainable in the neighbourhood, most of them being new arrivals on the work.

There were three cases of diphtheria, and a few accidents, with six deaths in all.

Two well-equipped hospitals are maintained, both well located, and each in charge of a resident medical man, and a trained nurse, one at Kaministikia, the other at Grassey Narrows.

There are also two general hospitals in the neighbourhood, Dr. Ferguson, who was in charge of the hospital at Kaministikwia, Ont., developed symptoms of typhoid

fever, at the time of my last visit, and he went to the Toronto General Hospital, and was replaced by J. A. Speers, M.D.

F. J. Ewing, M.D., is the chief medical officer for the contractors, and makes his headquarters at Fort William, Ont.

CANADIAN PACIFIC RAILWAY.

Kenora Section.—Rock work extending over seventy miles. Messrs. Foley Bros., Larson & Co., are the contractors, and they in the early part of the season, were double tracking the line in places, from Fort William to Winnipeg.

One thousand men are now employed, who are housed and boarded in lumber camps by the contractors. There had been ten cases of typhoid fever, with two deaths therefrom, and five accidents. The general health of the men was otherwise good, as were also the sanitary conditions of the camps, the refuse being either burned or carted away, and box closets supplied and regularly cleaned. The general hospital at Kenora is used when necessary.

W. J. Gunne is the district medical officer of this work.

Toronto-Sudbury Branch.—Severn river to Barnesdale, twenty-eight miles. This was under contract to the Toronto Construction Company, and there were eleven sub-contractors, with thirty camps, in which about fourteen hundred men were employed, who were housed and boarded in tents and shacks by the sub-contractors, housed and boarded themselves, or lived in surrounding houses.

There had been six cases of typhoid fever, but no other contagious diseases. There had been a number of minor accidents, and twenty-five serious ones, with seven deaths, one from drowning, one found dead in bed, one dropped dead at work, two from premature explosions, and one from being crushed by rock falling. The general health of the men, the water supply and the sanitary conditions of the camps were good. The Bala and Parry Sound hospitals were used when necessary.

F. C. Ross, M.D., of Bala, Ont., and W. H. Limber, M.D., of Parry Sound, were the district medical officers of the camps.

Toronto-Sudbury Branch.—Coldwater to Severn River, Ont., about twelve miles. Messrs. Battle, Conlon, Harcourt & Armstrong, of Thorold, were the contractors. From one hundred to two hundred and fifty men had been employed, who were housed and boarded in board shacks by the contractors.

There had been no contagious or infectious diseases, with the exception of a couple of cases of typhoid fever, and they recovered.

There were five accidents, and two deaths, from explosions. The Midland hospital was used when necessary.

J. A. Harvie, M.D., of Coldwater, was the medical officer in charge, and he had one assistant. This work is now completed.

Toronto-Sudbury Branch.—From William Creek to Coldwater, Ont., thirteen miles or over. The Toronto Construction Company were the contractors. From one hundred to three hundred men had been employed, who were housed and boarded in tents, board shacks and cars, by the contractors. There had been no contagious or infectious diseases, two serious and some minor accidents, and one death by dynamite explosion. The general health of the men, the water supply and the general sanitary conditions of the camps, were excellent.

The general hospital at Toronto was used when necessary.

J. A. Harvie, M.D., of Coldwater, Ont., was the district medical officer. This work is now completed.

Toronto-Sudbury Branch.—From Bolton to William Creek, Ont., about fifty miles. From two hundred to three hundred men had been employed, who were first housed and boarded in tents or shacks, and afterwards in railroad cars, by the con-

tractors. The health of the men had been excellent, with no serious accidents or deaths. The water supply was from wells, and the sanitary conditions splendid.

A temporary hospital was provided, and the Barrie and Toronto hospitals were used when necessary.

A. F. Reynar, M.D., of Palgrave, Ont., was the district medical officer in charge. This work is now completed.

Toronto-Sudbury Branch.—From Tottenham, Ont., north about fifteen miles. The Toronto Construction Company were the contractors.

About one hundred men had been employed, who were housed in tents and cars, and boarded by the contractors. There had been no contagious disease, accidents or deaths, and the general health of the men and the sanitary conditions had been good.

Hospital accommodation was provided and W. H. Wright, M.D., Tottenham, Ont., was the district medical officer.

Toronto-Sudbury Branch.—From Tottenham, Ont., south about fifteen miles. The Toronto Construction Company were the contractors.

About one hundred men had been employed on this section, housed in tents or cars, and boarded by the contractors.

There had been no contagious diseases, accidents or deaths, and the general health of the men had been excellent.

Hospital accommodation was provided if necessary.

James Campbell, M.D., of Tottenham, was the district medical officer in charge. This and the work last reported above are now completed.

Toronto-Sudbury Branch.—From Parry Sound south about twenty miles. The Toronto Construction Company were the contractors.

One to two hundred men had been employed, who were housed and boarded in tents, shacks, and cars and boarded by the contractors. There had been no contagious disease, serious accidents, or deaths, and the general health of the men and conditions of the camps were good. Dr. Stone, of Parry Sound, was the district medical officer in charge, and he has a private hospital there for general accommodation.

This work is about completed.

Toronto-Sudbury Branch.—Parry Sound to Byng Inlet, Ont., forty miles. The Ross-Harris Company, Limited, of Parry Sound, are the contractors. About eight hundred and fifty men are employed, who are housed in good log and board buildings, and boarded by the contractors.

Of contagious and infectious diseases, there had been one case of diphtheria, and four of typhoid fever.

There were six accidents, and two deaths from dynamite explosion.

The general health of the men had been good. The water supply obtainable was poor, even from wells.

Latrines were supplied, and the sanitary conditions of the camps were good.

There was an excellent permanent hospital established in a central locality, under charge of J. P. Russell, M.D., who was the district officer of the work.

Walkerton-Lucknow Branch.—From a point on the Canadian Pacific Railway, near Picton, Ont., westerly to the town of Walkerton, Ont., a distance of thirty-seven and one-half miles, Messrs. Macdonald & Stephen, of Durham, Ont., are the contractors. They had not established any permanent camps at the time of my visit, but expected to employ three to four hundred men and had appointed Drs. Jamieson and McLaurin, of Durham, as district medical officers.

MICHIGAN CENTRAL RAILWAY.

Canada Southern Division.—Double tracking between Windsor and Bridgeburg, Ont., and crushing of stone therefor at Hagerville, Ont., for ballast.

This work is being done by the company under the supervision of Mr. A. S. Zinn, construction engineer, with headquarters at St. Thomas, Ont.

About six hundred men were employed, who were housed and boarded in box cars along the construction work, and in houses and cars at the quarry.

There had been no contagious or infectious diseases, and no deaths, with about fifteen accidents, but none fatal. The general health of the men, and the sanitary conditions were good, the cars used being thoroughly disinfected at times. The hospitals which were most convenient were used, they being the Amasa Ward hospital, at St. Thomas, the Hotel Dieu at Windsor, and the Niagara Falls General Hospital, at Niagara Falls. The men are under the medical charge of the company's railroad hospital association, and no charge is made on them, under the Public Works Health Act regulations. The men are working in gangs at different points along the line, and wherever located the hospital association physician has been appointed district medical officer.

The districts and the medical officers thereof are as follows: Tilbury, Ont., M. Sharp, M.D.; Fletcher, Ont., S. N. Young, M.D.; Blenheim, Ont., S. G. Story, M.D.; Tilsonburg, Ont., W. H. Burnett, M.D.; Delhi, Ont., F. J. Sheahan, M.D.; Hagerville, Ont., S. H. Quanee, M.D.; Cayuga, Ont., E. T. Snider, M.D.; Courtright, Ont., J. I. Ferguson, M.D.

THE NIAGARA, ST. CATHARINES AND TORONTO RAILWAY.

Thorold to Welland Branch.—Twelve miles. This is an electric road, and is under contract to Mr. Joseph Battle, of Thorold, Ont.

From seventy-five to one hundred and fifty men were employed, who were located in private houses in the neighbourhood, but notwithstanding were under the charge of W. G. Rateliffe, M.D., as district medical officer.

JAMES BAY RAILWAY.

Branch into Sudbury.—From north of Canadian Pacific railway crossing to Hutton and branch into Sudbury, the Northern Construction Company, with headquarters at Wahnipitae, Ont, have the contract for this work, and there were ten sub-contractors.

About eight hundred men were employed thereon, who were housed in tents and lumber buildings, and boarded by the contractors or sub-contractors.

There had been about sixty cases of typhoid fever, with ten deaths, nine from typhoid and one from explosion.

There were some accidents, but only five serious.

The health of the men had been generally good, and the water supply fair, but there had not been sufficient care given to the sanitary conditions of the camps.

There is good accommodation at the Sudbury hospital, which was used in addition to the temporary hospital. The medical supervision of the men on this work was under the charge of R. B. Struthers, M.D., who was the district medical officer, and who was assisted by his partner, Dr. Arthur.

Section from French River North to Canadian Pacific Railway Crossing.—The Northern Construction Company are the contractors. About nine to ten hundred men were employed, who were housed and boarded in tents, shacks and wooden buildings, by the contractors. There had been a number of cases of typhoid fever, and one of diphtheria, but no deaths, and no very serious accidents. The general health of the men had been good, the water supply fair, and the condition of the camps fairly good. A permanent hospital is maintained in a suitable location for the various camps, under charge of a resident medical officer, and the supervision of C. H. Gilmour, M.D., who is the chief medical officer for the contractors.

Section from French River South.—Thirty miles, Angus Sinclair, C.E., of Parry Sound, is the contractor, and there are four or five sub-contractors. About four hundred men were employed, who were housed and boarded in tents, shacks, and log buildings, by the contractor and sub-contractors.

There had only been one case of contagious disease (erysipelas), but none serious, and no deaths. There was a permanent hospital established, central to the camps, which was in charge of Geo. H. Gardiner, M.D., who is the district medical officer of the work, under C. H. Gilmour, M.D., the chief medical officer for the contractor.

Section from North of Parry Sound.—Thirty miles. Angus Sinclair, C.E., is the contractor, and there are ten sub-contractors. About eight hundred men were employed who were housed in tents, shacks and log cabins, and boarded by the sub-contractors. There were some cases of typhoid, but no other contagious or infectious diseases. There were three serious accidents, and a number of minor ones. There were eight deaths from explosions, &c., but none in the hospital. The general health of the men, the water supply and the sanitary conditions of the camps were good. There was one permanent hospital 30 by 52 feet, suitably located and under charge of W. A. Robertson, M.D., as district medical officer, under the supervision of C. H. Gilmour, M.D., the chief medical officer for the contractor.

CENTRAL ONTARIO RAILWAY.

Bancroft to Mayworth, Ont.—About fifteen miles. W. G. Gibson, of Port Hope, Ont., is the chief contractor, and the company are doing a small portion of the work themselves. About one hundred and fifty men were employed thereon, who were housed in shacks or wood buildings erected by the company along the line, or in farm houses and boarded by James Robinson on contract. The health of the men had been good, and no contagious or infectious diseases developed. There had been no deaths and only one serious accident, from which patient recovered. Tents and houses were provided for temporary accommodation, and the Belleville general hospital was used in the case of the accident named. The water supply was from springs, and was very good. Latrines were provided in suitable locations and the general sanitary conditions of the camps were good.

A. T. Embury, M.D., of Bancroft, is the district medical officer of this work.

NAPIERVILLE JUNCTION RAILWAY.

Rouse's Point, N.Y., to St. Constant, Que.—Twenty-seven miles. This work is being carried on by the Delaware & Hudson Railway Company, of New York, from the international boundary line, and the Pacific Construction Company of Ottawa are the chief contractors, with Messrs. Rogers & Quirk, and Messrs. Arthur H. R. & Robert F. H. Bruce, as subcontractors.

Only a small body of men were employed, most of whom reside in the neighbourhood, or board with farmers. The health of the men had been good, and there had been no serious accidents or deaths. No fee is charged the men for medical services. In case of necessity, the Montreal General Hospital, or the general hospital at Plattsburg, N.Y., would be used.

QUEBEC CENTRAL RAILWAY.

Extension in the County of Beauce.—From Beauceville to St. George, Que., nine miles. Clarke Gordon, of Sherbrooke, was the contractor. About three hundred men were employed thereon, who lodged and boarded in the surrounding vicinity. No charge was made on them for medical services. Their health had been excellent, and no hospital had been required, but the Quebec General Hospital would be used in case of necessity. This work is now completed.

QUEBEC RAILWAY, LIGHT AND POWER COMPANY.

Concrete Dam.—Across the River Montmorency, county of Quebec. There were two hundred and fifty men employed on the work, but they all reside in their own houses, or board with surrounding residents. Their health had been excellent, and no medical fee was being charged them.

GREAT NORTHERN RAILWAY.

Montford Branch.—From junction with main line near St. Jérôme, Que., to junction with the Montfort and Gatineau railway, about sixteen miles. This work is being carried on by Messrs. Mackenzie, Mann & Co., of Toronto, who have sub-let the same to Messrs. O'Brien & Mullarky, of Montreal, and they have again sublet it in four divisions, to the following contractors, T. Kert, Morrison, Bonneville and Mulhern, and McDonald & Sunstrum. There are four camps, and three hundred and forty men were employed, who were housed and boarded in tents and wood shacks, by the sub-contractors. There had been two cases of typhoid fever, one serious accident, and two deaths. The general health of the men, the water supply, and the general sanitary conditions of the camps were good. Temporary tents were provided for hospital use, and a Montreal hospital would be used in case of necessity.

D. Berthiaume, M.D., of St. Jérôme, Que., is the district medical officer of the work.

Extension of Main Line.—From near Shawinigan to Quebec city, about eighty-six miles. This work is also being carried on by Messrs. Mackenzie, Mann & Co., of Toronto, who have contracted with Messrs. O'Brien & Mullarky, of Montreal, for the construction thereof, and the latter have sublet parts thereof to four sub-contractors, viz.: Bamfield, McManus, Sorret & S. Maloney. There are four camps, one at St. Casimir, one at St. Orme, one at St. Prospère, and one at St. Stanislas, in the county of Champlain. About three hundred men were employed in all, about one hundred and twenty-five of them being housed and boarded in tents and buildings by the sub-contractors, the remainder boarding with surrounding farmers. There had been no contagious or infectious disease, no deaths, and only one accident. The general health of the men, the water supply, and the sanitary conditions were good. Hospital quarters were provided in case of urgency, but one of the Montreal hospitals would be used in case of necessity. Rosario Frigon, M.D., of St. Casimir, was the district medical officer of the first three camps, and Ferdinand Trudel, M.D., of St. Stanislas, the district medical officer of the camp there.

QUEBEC AND LAKE ST. JOHN RAILWAY.

La Tuque Branch.—From La Tuque Junction to La Tuque village, about forty-two miles. This work has been under construction for some time, and is under contract to Mr. Joseph Paquette. There are only about one hundred and twenty men employed at the present, but there had previously been a much larger number. They were housed in good permanent buildings, or scattered along the line in tents, and were well boarded by the contractor. The general health of the men had been excellent, the water supply of the very best, and the sanitary conditions of the camps good.

There had been no contagious or infectious disease, no deaths, and only five or six minor accidents. Latrines were supplied at the permanent camps. The contractor had erected a good permanent building at La Tuque junction for hospital accommodation, which was under the charge of Louis V. Masse, M.D., who resided thereat, and he was the district medical officer of the work.

HALIFAX AND SOUTHWESTERN RAILWAY.

Section from Liverpool to Barrington.—About seventy-nine miles. The proprietorship of this road is in the hands of Messrs. Mackenzie, Mann & Co., of Toronto. The contractors for the construction thereof, were the Atlantic Construction Company, with headquarters at Shelburne, N.S., and they let out the work to several sub-contractors.

From two to three hundred men had been employed, but at the date of my last inspection, that part of the road from Liverpool to Shelburne, had been completed and trains were operated thereon, and from Shelburne to Barrington, twenty-five miles, only about one hundred and fifty men were employed, mostly at track-laying and bridge work. The health of the men employed along the entire line during the past year, had been exceptionally good, they being well housed and boarded by the sub-contractors. There had been no contagious or infectious diseases, or deaths, but there were a number of minor accidents, and one serious, but the patient recovered. The Royal Victoria Hospital at Halifax was used when necessary, but temporary hospital accommodation was provided by the contractors, at suitable locations. The district medical officers supervising the health and care of the men during the past season were G. W. Burns, M.D., and Jas. Morton, M.D., of Shelburne, and J. D. Dunsmure, M.D., of Port Clyde, N.S. At the date of making this report, the above road is completed, and trains are running thereon from Halifax to Yarmouth, N.S.

CANADIAN NORTHERN RAILWAY.

Ridgeville to Vassar, Manitoba, about twenty-five miles. This work is east of Winnipeg, and is being carried on by Messrs. Mackenzie, Mann & Co., contractors. Only a small body of men were employed thereon, who were well housed and cared for by the contractors, and their general health had been excellent. P. C. Crosby, M.D., was the district medical officer in charge.

In closing this, my report for the seventeen months ended March 31, 1907, I have the pleasure of again being able to draw your attention to the abatement of contagious and infectious diseases (with the exception of typhoid fever in the neighbourhood of Fort William, Ont.), the general healthfulness of the men, the excellent sanitary condition of the camps at said works, and the attention given by the companies, contractors, sub-contractors, and medical officers in trying to comply with the requirements of the regulations under the Public Works Health Act, 1899.

I have the honour to be, sir,

Your obedient servant,

CHAS. A. L. FISHER,

Public Works (Health) Inspector.

The Honourable
The Minister of Agriculture,
Ottawa.

No. 14.

(T. F. CHAMBERLAIN, M.D.)

TORONTO, April 1, 1907.

SIR,—I have the honour to submit to you my report as public works (health) inspector for the year ended March 31, 1907. Early in the month of June last I was

appointed an inspector under the Dominion Health Act of March 3, 1906, and instructed by you to inspect all places where public works were being conducted in the provinces of Manitoba, Saskatchewan, Alberta and British Columbia, for the purpose of ascertaining if the men employed thereon were receiving the medical and surgical attention which they are entitled to receive under the provisions of the Act in consideration of the amount they contribute monthly for that purpose. Having obtained all the information possible from the officials of the railways at Montreal as to the different places where work was being done and the number of men employed, I left for Winnipeg on June 21. On my arrival I interviewed the railway officials cognizant of the facts I wished to obtain, and received from them the information I required to enable me to commence my work.

The work on the following lines of railway, viz.: the Canadian Pacific Railway, Canadian Northern Railway, Grand Trunk Pacific Railway, Kettle River (or Hot Air Line), Great Northern, and Brandon, Saskatchewan and Hudson Bay Railway, consisted mostly of grading and bridge building with some track laying during the fall until the cold weather caused them to go into winter quarters the last of November.

In order to reach the different men and camps on the different lines of railway, I had to drive hundreds of miles, often where there were no roads, also walking considerable distances. In my reports to you from time to time I gave all the details I could obtain from doctors, contractors and others, a resumé of which I append herewith.

Twice during the season I visited and inspected most of the camps in Manitoba, Saskatchewan and Alberta and once in British Columbia. The conditions of location sanitation, water supply, &c., were very good in a few of the camps, the men employed being satisfied in every respect. The greater number of camps in no way (except as regards food) met the requirements of the Health Act. In many places the alkaline condition of the water is a great inconvenience to both men and horses, and was in some cases a cause of sickness. The absence of proper appliances for boiling and filtering the water, proper latrines and hospitals, tents, &c., of the camps no doubt contributed to much of the sickness, especially typhoid fever. These cases were removed long distances in the wagons to some town where there is a hospital where they could be cared for and receive proper medical attention. The men found much fault at not receiving the medical treatment they felt they were entitled to.

The best, most complete and largest camp I inspected was found in the Qu'Appelle River Valley, where the Doukhobors had a sub-contract from Messrs. McDonald & McMillan. At several points the Grand Trunk Pacific Railway, Canadian Pacific Railway and Canadian Northern Railway parallel each other and are quite close to each other, which enabled me to visit the camps on the three roads by cross-cutting the country from one to the other. It was very difficult for contractors to obtain the number of men they require, although good wages were paid; $2 per day to labourers without board, and $30 to $35 per month with board.

Owing to the neglect of the doctors in not sending me the monthly reports, as well as the questions in the reports, I have received, not being fully answered, it is impossible for me to give even an approximate statement of the number of cases of sickness, injuries or deaths. I gave the doctors, contractors and engineers copies of the Health Act, circulars and letters, instructing them as to sanitary and other matters from time to time as I visited the camps, also blank forms to the doctors to be filled in and sent to me at the end of each month. It is quite evident that the medical work required by the Health Act is entirely handed over by the contractors to the chief medical officer of the railway company from whom the contract is taken.

The following schedule contains the facts given in the doctors reports in full and are all that I received during the year.

Doctor.	General Sanitary Condition.	Latrines.	Water Supply.
Dr. J. M. Brandon, Dubuc	Good	Eight pits	Well water
G. S. Wray, Saskatoon	Good	At each camp	"
W. C. Arnold, Touchwood	Fair	None	"
S. McCallum, Vermilion	Good	None	Well
W. A. Cluff, Strassburg	Good	Where practicable	Surface wells
W. S. Syall, Carberry	Very good	Pit closets	Spring
G. N. Giles, Miniota	Good	In large camps	Well and spring
Geo. Camsell, Austin	Good	Have special	Running streams
C. E. Flatt	Fair to good	Sufficient	Well and spring
A. J. Dickson, Rapid City	Good		Wells
A. W. Allum, Rapid City	Good	Holes in ground	"
J. G. Middlemiss, Battleford	Good	Cesspools	Spring and well
J. Gray, Portage la Prairie	Excellent	4	Well
J. Gray, Portage la Prairie	Excellent	Pit closet	Wells
J. Gray, Portage la Prairie	Excellent	Dry earth closet	Well
G. R. Peterson, Saskatoon	Good	Good	Good
Arthur W. Hotham, Strassburg	Good	2 Good	"
W. E. Somers, Sheho	O. K.	O. K.	"
W. E. Somers, Sheho	Good		Wells

Hospitals.	General Health.	Deaths	Accidents.	Contagious Diseases.	Men paid per month.	Number of men employed.	Date of Report.	Railway.
					$ cts.			
1	Good		2			100	August 31	G. T. P. R.
Tent	"	1	No serious.			300	"	"
None	"					350	"	"
1	"					95	"	"
None	"		No serious.			225	"	"
None	"		1	2 Measles		300	"	"
Field	"		Fractures	Measles and Scabies		260	"	"
None	"					200	"	"
1	"					250	"	"
None	"					320	"	"
None	"	1				106	"	"
2	"	2				275	"	"
1 Tent	"		13			130	"	"
1 Tent	"		13		0 75	135	"	"
None	"	1	4	4		180	Sept. 30	"
2	"		2			212	Aug. 30	"
None	"				1 00	125	July 31	C. P. R.
Tent	"		1		0 50	100	June 30	"
None	"				0 50	110	Sept. 30	"

SYNOPSIS FROM REPORTS.

EDMONTON, July 25, 1906.

I have inspected most of the camps on the Grand Trunk Pacific railway from Winnipeg here and will leave to-morrow for British Columbia to finish the work there. The contractors for the Grand Trunk Pacific are Messrs. McDonald & McMillan, who have a contract of 250 miles from Winnipeg to Touchwood Hills. The Canadian White Company have the contract from there to Saskatoon, and Foley Bros. from there to this place. These contractors do some portions of the work themselves and sublet to various other parties. The whole comprises about 825 miles. None of the companies having camps meet the requirements of the Public Works Health Act of March 3, 1906. There are a few camps which are clean and have very good sanitary provisions and are supplied with latrines. The camp refuse is either buried or burned. But very few of the camps have hospital tents or local doctors in charge.

The water is obtained chiefly from wells and in many places is alkaline. The food is supplied to the men and is well cooked. About 2,500 men are employed between Winnipeg and this point. There is one camp of about 600 Doukhobors employed by McDonald & McMillan. They furnish their own supplies, and do not contribute anything for medical attendance. Their women accompany them and attend to the cooking in the camp, &c. Their camps are neat and clean and in good sanitary condition. They work under the instructions of a foreman and engineer. The Grand Trunk Pacific have a good camp near Portage la Prairie, and also one east of Saskatoon, Messrs. Armstrong & Lake, sub-contractors. They are kept in good sanitary condition. In other camps very little attention is paid to sanitary conditions, and the men find considerable fault as to the medical attendance they receive. No resident doctors except at a camp east of Battleford, where Dr. Middlemiss has a tent and medical supplies, and west of Battleford, at Vermilion, in charge of Dr. McCallum. The other doctors employed along the line reside in towns or villages and have a private practice to attend to. They visit the sick in the camps when sent for. In many cases covering a distance of 40 or 50 miles from their places of residence. They receive $40 to $100 per month, and the men pay 75 cents per month each for their attendance. In most cases the doctors employed pay little or no attention to the sanitary conditions of the camps. They do as little work as they possibly can for the money they receive. The contractors and sub-contractors house their men in tents and in most cases board them. Day labourers are paid $2 a day and charged from $4 to $4.50 a week for board. Men employed by the month are paid from $30 to $35 per month and their board. I am told that there has not been much sickness and very few accidents have occurred up to the present time. Some cases of smallpox developed near Miniota a few weeks ago, but did not spread, the parties being properly quarantined.

I have left copies of the Health Act with the doctors, contractors, foremen and engineers at each camp, with the request that they carefully carry out the conditions contained therein. South of Battleford there are several camps on the construction of the Grand Trunk Pacific and Canadian Pacific railway, and Dr. Middlemiss is in charge of the sick on the Grand Trunk Pacific works. He has a hospital tent and is provided with medicines. The Grand Trunk Pacific Company are making an effort to comply with the Public Health Act and the men are charged 75 cents per month for medical attendance.

I inspected the camps on the Canadian Pacific railway along the line from Sheho to Wetaskiwin. A few of them are in a sanitary condition. In some cases the water was very bad, and up to the present time no doctors have visited some of the camps. In other places the doctors visit the camps once a week or oftener if sent for. There are no latrines, no hospital tents, and no medical supplies. The men are charged from 75 cents to $1 per month and are housed in tents and boarded by the contractors. J. D. McArthur is the contractor for the work west of Sheho, a large portion of which

he sublets. Dr. Somers, of Shebo, attends to the men when he is required. The extension from Strassburg west is let to the British Columbia General Contract Company, who sublet to different parties. The men are charged $1 per month for medical attendance. The camps are not supplied with hospitals or other appliances for the sick except in one or two places. The doctor generally visits the men once a week or two. Other camps are in a fairly good condition. The Canadian Pacific railway line west from Saskatoon to Wetaskiwin is being built by the McArthur Company, who have the contract. They sublet a good portion of the grading. They supply all their subcontractors with supplies and food for the men. The men are housed and fed by the contractors. No hospital tents or resident doctors at many of the camps, and the sanitary condition is not good. At other places the camps are situated on high ground and the refuse is destroyed. The food is good and well cooked. Men are charged 75 cents per month. Dr. McDonald is located in a tent on the works south of Battleford. The road is built from Wetaskiwin to Daysland, a distance of 51 miles, and the grading some 30 or 40 miles farther east. There is no work going on east of Lacombe at present.

I also inspected the Brandon, Saskatchewan and Hudson Bay's construction works, which cross the boundary line south of Brandon, and are being completed to that place. The general contractors are Guthrie & Co., of St. Paul. The principal sub-contractor is Mr. Bradley. Well water is used for all purposes at the camp and is very good. The food supplied the men is good and well cooked. They are charged 50 cents a month for medical attendance. They are housed in tents and fed by the contractors. Sanitary conditions of the camps are not very good. Some 300 men are employed. I found a case of smallpox on the works near Souris. The patient was quarantined and the exposed parties I had vaccinated. No other cases occurred at those camps. I left copies of the Health Act with the doctors, contractors and engineer.

I inspected the camps on the Canadian Northern railway, running west from Oakland, near Lake Manitoba, to intersect their main line, running to Prince Albert. James Cowan, the contractor, sublets to other parties. Mr. J. E. Atkinson is the engineer on the work. There is no doctor or hospital tent or latrine at the camp along this line. The men are housed in tents by the contractors who board them, charging 75 cents per month for medical attendance. I am told that there has not been much sickness or injuries to the present time.

I am, sir,

Your obedient servant,

(Signed) T. F. CHAMBERLAIN, M.D.

F. Montizambert, Esq., M.D.,
Director General of Public Health,
Ottawa, Ont.

Grand Forks, B.C., August 9, 1906.

Sir,—I beg to report to you that I have found the conditions of the different works in this province, as to the health of the men and the provisions made for their attendance in case of sickness or injury, very much the same as the works I visited in the eastern provinces already reported to you. The Health Act of March, 1906, is not carried out, but on some of the works the contractors are making an effort to meet some of the requirements of the Act.

Canadian Pacific Railway Work.—The work on the Nicola branch from Spence's bridge is nearly completed. Mr. McDonald is the contractor. He has only a few men employed at the present time.

The Kettle River Valley Railway Company.—The contractor for 50 miles of this road is Mr. W. F. Tierney. The chief engineer and general superintendent is H. W.

Warrington. Some 475 men are employed on this work between this place and Bannock City, a distance of 16 miles. I find the supply of water better in this province than in the east. It is obtained from springs coming from the mountains. The contractor, Mr. Tierney, has made better provision for medical attendance and for the sanitary condition of the camps operated by himself than any of the other camps I have visited. Dr. W. H. Dixon, of this place, has charge of the medical work. The men are charged $1 per month each for medical attendance.

Great Northern Railway.—They are working from Midway west to a place called Oroville, about 30 miles, the rails are laid for some 12 miles. About 300 men are now employed. Their object is to complete laying rails to Oroville, so as to carry in supplies by construction train. J. W. Stewart, or practically Foley Bros., are the contractors. They have the contract from the boundary line to Keremos, about 65 miles. J. H. Kennedy is the engineer. This road is making for Vancouver. There is also some work being done from Vancouver east.

I find the work very difficult in this province, on account of the great distance and the difficulty of getting in to where the work is being done, train service being limited.

I am, sir,

Your obedient servant,

F. MONTIZAMBERT, Esq., M.D.,
Director General of Public Health,
Ottawa, Canada.

WINNIPEG, August 18, 1906.

SIR,—I beg to report that there are some 350 men on construction work for the Canadian Pacific Railway between Medicine Hat and Swift Current. The chief engineer is Mr. J. D. McArthur. He sublets to Alberta Construction Company, Cazair & Janes Bros.

The same conditions as to the Health Act exist as in the case of other works already reported.

The Canadian Pacific Railway are doing some work themselves at the summit of Crow's Nest Pass, but few men are employed.

I have the honour to be, sir,

Your obedient servant,

F. MONTIZAMBERT, Esq., M.D.,
Director General of Public Health,
Ottawa, Canada.

WINNIPEG, October 20, 1906.

SIR,—I beg to report to you that I have made the second inspection of the camps on the following railways, namely: the Grand Trunk Pacific, from Portage la Prairie to Bagot, 15 miles west, with 175 men at the camps. Dr. Gray attends the men and resides at the camps. The men are fed and housed in cars fitted for that purpose. Water and food are good. Thirty cases of slight injury, four cases of typhoid fever, one death. The men are charged 75 cents per month. The doctor is paid $75 a month and board. The sick are sent to Portage hospital for treatment.

The work east and west of Battleford is being pushed as rapidly as possible by the company. Foley Bros. have the contract between Saskatoon and Edmonton. They

sublet to various other parties. The men sleep and eat in tents furnished by the contractors. Drs. Hickson and Ray are located on the works and go up and down the line. The sick are sent to Battleford hospital in wagons, some 50 miles, for treatment. At the hospital in Battleford, Dr. McLurge attends the sick and receives $50 a month from the company. Within the past two months 14 cases of typhoid fever and one case of pneumonia have been sent into the hospital for treatment. There were four deaths. The water is said to be good, also the food. The men complain of the medical attendance. The Dominion Health Act is not complied with.

The Canadian Northern Railway.—I went over the road from Oakland, near Lake Manitoba, to the landing. This is a line some 90 miles, to connect with a main line to Prince Albert, at a place called Meckanek. The rails are laid for 16 miles. Messrs. Cowan & Company, of Winnipeg, are the contractors for grading 44 miles. Dr. McKinnon, of Portage, attends to the medical work along the line. One hundred men are in camp, housed and fed in tents by the contractors. There are no hospitals, or latrines. West of Edmonton for some 25 miles the grading is nearing completion, the rails being laid for 6 miles. Mr. McArthur, of Winnipeg, has the contract. He sublets to other parties who have small camps along the line of from 30 to 40 men. They are housed in tents and fed by the contractors. Dr. Oatwa, of Spruce Grove, looks after the sick and injured over this line. He is employed by Dr. McKenzie, of Winnipeg. The men are charged 75 cents per month for attendance. Mr. McCrimmon, of Winnipeg, has ten miles of grading on this line. He feeds and houses his men in tents. The sleeping tents are supplied with stoves. There has not been much sickness along this line during the fall or summer. One case of typhoid fever is reported. The water and food are good. The sick are sent to Edmonton hospital for treatment.

The Canadian Pacific Railway.—I visited most of the camps between Swift Current and Medicine Hat. Mr. McArthur, of Winnipeg, has the contract for grading. He sublets to other parties. The men are fed and housed by the contractors in tents. Well water principally is used. The food is good and well cooked. Dr. Smith, of Maple Creek, attends to the sick and goes over the line once a week. There was a small camp at Forest and just west of that Mr. Cummings, the sub-contractor, has a camp of 45 men. Cazair Bros. have a large camp still west of Cummings, near Walsh station. The men pay 75 cents a month for medical attendance. Dr. Smith is not very regular in his attendance upon the sick. There have been 14 cases of typhoid fever. Eight cases are now at Maple Creek hospital. There have been two deaths. Well water is used. There are no hospitals or latrines. Their line running to Battle River, some 50 miles east of Daysland, is graded. The men are housed and fed by the company. There was no sickness during the past few weeks, and no doctor employed on the line. The sick, when any, are sent to Wetaskiwin for treatment. The road is being pushed rapidly from Saskatoon west to meet the line from Wetaskiwin at Battle River. This road runs for a number of miles parallel with the Grand Trunk Pacific some 50 miles south of Battleford. Dr. McDonald is located on the works and sends the sick into Battleford hospital for treatment.

The doctor's camp is near Tramping lake. At the hospital the patients are attended by Dr. McLurge, of Battleford. Mr. McArthur, of Winnipeg, has the contract for this work from Saskatoon to Daysland. It is sublet in small sections. The water and food are good, but there are no hospitals or latrines. There have been three cases of typhoid fever sent into the hospital during the past few months. The men at the works complain of the medical attendance. No deaths are reported. I have left in the various camps and sent to the doctors copies of the inclosed notice.

'Contractors, sub-contractors, doctors and engineers employed on public works, will, during the next two months take special precautions at all the camps in order to prevent epidemics of typhoid fever.

'All water used for drinking or culinary purposes, not obtained from springs or good wells, must be boiled, and, if necessary, filtered before using, as provided for by the Dominion Health Act of March 3, 1906.

'Any neglect in this respect will subject the above parties to a fine of $100 or three months' imprisonment, or both.'

I have the honour to be, sir,

Your obedient servant,

T. F. CHAMBERLAIN, M.D.,

F. MONTIZAMBERT, Esq., M.D.,
Director General of Public Health,
Ottawa, Canada.

NOVEMBER 26, 1906.

SIR,—*Canadian Pacific Railway.*—I beg to report that the work from Sheho west to connect with the work east from Wetaskiwin by way of Saskatoon to Battle River, where it connects with the eastern works, has made good progress since my last inspection. Mr. J. D. McArthur is the contractor, who sublets to other parties. Mr. D. A. Findley is one of the principal sub-contractors and has 40 miles west of Sheho. Dr. Somers, of Sheho, looks after the medical work. He receives 50 cents per month for every man on the work. The men are charged 75 cents per month. At present there are three camps and 120 men. There have been a few cases of minor accidents and no typhoid. Water and food are good. There are no latrines. Men are fed and housed in tents. The doctor said he had a hospital tent for part of the season. The sick are generally brought into Sheho and kept in the hotel, the contractor paying the bills. The doctor goes to the camp once a week, oftener if sent for. The contractor told me that he would close down the works in a few days for the winter. Mr. Reid is engineer on the works. West of Saskatoon to the Eagle Hills there are five camps. The heaviest work on the line of grading is through those hills. Mr. McArthur, contractor for this company, has undertaken with Foley Bros., contractors for the Grand Trunk Pacific railway, to make a cut of three miles through those hills, where the two roads will run side by side. There are about 400 men in those camps. Dr. McDonald looks after the health of the men and resides at Camp No. 5. He goes 50 miles in each direction and has a hospital tent during the season at the supply store, 58 miles from Battleford. The sick were mostly taken to Battleford for treatment. Men are charged 75 cents per month. Both food and water are good. One case of typhoid is reported. The doctor visited the camps once in 15 days or longer intervals. He is paid by the month and furnished with horses. Early next season this road will be completed from Sheho to Wetaskiwin, which will give the Canadain Pacific railway direct line to Edmonton.

Great Northern Railway.—This road is building north from a place called Etinami, on their main line to Prince Albert towards Hudson bay. Some 200 men are employed on grading and track-laying. There are three camps. One has closed down for the winter and the others will stop work this month. There are 16 miles of track laid and 60 miles graded. The Cowan Company, of Winnipeg, are the contractors. G. B. Bemister is engineer. Dr. Wimot attends the men. He has a tent on the works with seven beds for part of the season. There has not been much sickness. The food and water are good. The men are fed and housed in tents by the contractors. The men are charged 75 cents per month.

Grand Trunk Pacific.—Foley Bros. are contractors from Saskatoon to Edmonton, and sublet to various other parties. Mr. J. D. McArthur, contractor for the Canadian Pacific railway, is doing three miles of cutting for Foley Bros., where the two lines run close together through the Eagle Hills. There are five camps west of Saskatoon. Dr. Ray attends the sick, stationed at camp 5, with a hospital tent. Both food and water is said to be good. There are no latrines in use. Men are charged 75 cents a month. Dr. Ray goes over the camps once a week. Dr. Patterson, of Saskatoon, as-

sists him. East of Saskatoon and two miles west the White Company are the contractors. Their contract extends east to McDonald & McMillan's.

On account of the severe frost and storm, the companies have been compelled to close down for the winter. The works are expected to commence again early in the spring.

In conclusion, I wish to acknowledge the kindness of the different railway companies and their officials, in placing at my disposal conveniences which enabled me to carry on the work of inspection along their lines.

I have the honour to be, sir,

Your obedient servant,

T. F. CHAMBERLAIN, M.D.

The Honourable
The Minister of Agriculture,
Ottawa, Canada.

MISCELLANEOUS

No. 15.

QUARANTINE REGULATIONS.

INTERPRETATION.

Sec. 1. In these Regulations, unless the context otherwise requires :—

(*a*) The expression 'the Minister' means the Minister of Agriculture ;

(*b*) The expression 'inspection' means an inspection made by a duly authorized veterinary Inspector of the Department of Agriculture ;

(*c*) The expression 'contagious' means communicable by close contact or inoculation ;

(*d*) The expression 'infectious' means communicable in any manner ;

(*e*) The expression 'infectious or contagious disease' includes, in addition to other diseases generally so designated, glanders, farcy, maladie du coït, pleuro-pneumonia contagiosa, foot and mouth disease, rinderpest, anthrax, Texas fever, hog cholera, swine plague, mange, scab, rabies, tuberculosis, actinomycosis and variola ovina.

Sec. 2. The Veterinary Director-General is in charge of Health of Animals Branch of the Department of Agriculture.

Sec. 3. The following customs ports are hereby declared to be Animals Quarantine Stations and all animals imported into Canada subject to quarantine must be entered through said stations, viz.:—Halifax, N.S., St. John, N.B., Charlottetown, P.E.I., Quebec, Sherbrooke and St. Johns, Que., Bridgeburg, Windsor and Sarnia, Ont., Emerson, Gretna and Bannerman, Man., North Portal, Wood Mountain and Willow Creek, Sask., Pendant d'Oreille, Coutts, and Twin Lakes, Alta., Gateway, Kingsgate, Rossland, Nelson, Grand Forks, Midway, Myncaster, Vancouver and Victoria, B.C.

Sec. 4. Animals subject to inspection only, but which are not subject to quarantine, may enter through the aforesaid and at the following ports:—Pictou, North Sydney and Yarmouth, N.S., St. Stephens, Woodstock and McAdam Junction, N.B., Comin's Mills, Lake Megantic, Coaticook, Stanstead Junction, Mansonville, Abercorn, St. Armand, Rouse's Point, Athelstan and Dundee, Que., Cornwall, Prescott, Brockville, Cobourg, Toronto, Niagara Falls, Sault Ste. Marie, Port Arthur, Rainy River, and Fort Frances, Ont., Osoyoos, Sumas, New Westminster and Douglas, B.C.

Sec. 5. The Minister of Agriculture is hereby empowered to cancel as quarantine and inspection stations any of the places above named and to select such other sites in exchange for or in addition to the above as he may from time to time deem expedient.

IMPORTATIONS IN GENERAL.

Sec. 6. The Minister may prohibit or regulate the importation of animals from any country or any district where he has reason to believe that contagious disease of animals exists.

Sec. 7. (*a*) Persons contemplating the importation of animals other than horses from any part of the world, except the United States and Newfoundland, must first obtain from the Minister a permit stating the number and kind of animals to be im-

ported, the country of origin and probable date of shipment, the port of embarkation, the port at which said animals are to be landed and the approximate date of their arrival, and such permit shall not be available at any port other than the one mentioned therein.

(*b*) Application for such permits shall be in writing and the statements in such applications may be required to be verified on oath and the Minister shall decide in every case, whether a permit will be granted.

(*c*) Animals from countries other than those above mentioned arriving at any port in Canada without such permit shall not be admitted to Canada unless and until ordered by the Minister.

Sec. 8. The importation into Canada of animals from all countries, other than the United States, Newfoundland and Mexico, is prohibited except at the ports of Victoria, Vancouver, Quebec, Halifax, St. John, N.B., Charlottetown, P.E.I., and such other ports as may hereafter be indicated by the Minister.

Sec. 9. Persons in charge of vessels conveying animals to Canada must, immediately on arrival in port, notify the Superintendent of the Animals Quarantine Station of the arrival of such vessel and the number and kind of animals on board thereof.

Sec. 10. All importers must certify under oath, before making customs entry, the place of origin of the animals imported by them.

Sec. 11. All animals arriving in Canada through any of the above mentioned ports on the Canadian seaboard shall be subject to inspection on arrival by inspectors who may, from time to time, be appointed for that purpose.

Sec. 12. All inspections of imported animals must be made in daylight.

Sec. 13. Inspectors shall have free access to any wharf, vessel, car, or to any place where animals may be found, and, under authority from the Minister, shall deal with animals, vehicles and other articles in the manner contemplated by the Animal Contagious Diseases Act, 1903.

Sec. 14. Inspectors shall visit the vessels or cars conveying animals into the said ports and after inspecting such animals and finding them free from disease, shall superintend their landing or unloading, order them to be placed and disposed of according to the requirements of the case, and see that those to be quarantined are conveyed to the proper quarantine station. Inspectors shall also superintend the landing, unloading and disposal of fodder, litter, blankets, troughs and other articles which may have been used by or for the said animals.

Sec. 15. Importers of animals will be required to certify under oath that the certificates hereinafter referred to apply to the animals which they purport to describe and to no other, and that the district named is the actual one from which the said animals came.

Sec. 16. Any unauthorized interference with animals after inspection, whether by substitution or otherwise, or any other evasion, or misrepresentation, will be deemed a breach of these Regulations and in addition will render the shipment liable to seizure and detention pending the orders of the Minister as to its disposal.

Sec. 17. Inspectors may, if they deem it necessary, order the cleansing and purifying of any vessel, place, vehicle, building or article, and direct such precautionary measures to be taken as they may consider advisable, pending the decision of the Minister as to the ultimate disposal of such vessel, place, vehicle, building or article.

Sec. 18. Any animal affected with any contagious or infectious disease, which is imported or introduced, or attempted to be imported or introduced into Canada, shall be forfeited and may be forthwith destroyed or disposed of as the Minister may direct. And every person who imports or introduces, or attempts to import or introduce into Canada any animal affected with any contagious or infectious disease, shall be deemed guilty of a breach of these Regulations in regard to each and every animal so imported and introduced, or attempted to be imported or introduced by him.

Sec. 19. The importation of head ropes which have been used for tying up cattle is prohibited, and all vessels carrying or having on board such head ropes in contra-

vention of this Regulation shall be liable to be declared to be infected under 'The Animal Contagious Disease Act, 1903.'

Sec. 20. The importation of the manure of swine is prohibited.

Sec. 21. Any Veterinary Inspector may declare any railway car, or other land or water conveyance bringing animal manures into Canada, an infected place within the meaning of the provisions of the 'Animal Contagious Diseases Act,' whenever he shall have reason to believe or to have well founded suspicion that such may be a source of danger as respects the introduction of disease; and the unloading of such car or other land or water conveyance shall be in consequence prohibited until otherwise ordered in accordance with the provisions of the said Act.

HORSES, MULES AND ASSES.

Sec. 22. Horses, mules and asses imported from countries other than the United States, Newfoundland and Mexico, must be accompanied by the certificate of a qualified veterinarian and of the local authority of the district whence they came that no glanders 'maladie du coït' or other serious infectious or contagious disease affecting horses has existed in said district for a period of six months prior to their shipment.

Sec. 23. Horses, mules and asses imported from countries other than the United States, Newfoundland and Mexico, consigned to Montreal, may be, if the Minister so directs, inspected at the port of Quebec during summer navigation; in absence of special direction of the Minister they must be inspected at the port of Montreal. Such animals landing at any of the other ports named shall be inspected at such ports.

CATTLE.

Sec. 24. Cattle imported from countries other than the United States, Newfoundland and Mexico must be accompanied by the certificate of a qualified veterinarian and of the local authority of the district whence they came, that no pleuro-pneumonia contagiosa, rinderpest or foot and mouth disease has existed in said district for a period of six months prior to their shipment.

Sec. 25. (*a*) A quarantine of sixty days shall be enforced upon cattle imported from the United Kingdom. A quarantine of ninety days shall be enforced upon cattle imported from all other countries except the United States, Newfoundland and Mexico.

(*b*) The period of quarantine enforced upon cattle shall be counted from the date of clearance of the vessel carrying the same.

OTHER RUMINANTS.

Sec. 26. Sheep and goats imported from countries other than the United States, Newfoundland and Mexico, must be accompanied by the certificate of a qualified veterinarian and of the local authority of the district whence they came, that no foot and mouth disease has existed in said district for a period of six months prior to their shipment.

Sec. 27. A quarantine of thirty days shall be enforced upon all sheep and goats imported from countries other than the United States, Newfoundland and Mexico, to be counted from the date of clearance of the vessel carrying the same from the port at which they were embarked.

SWINE.

Sec. 28. Swine imported from countries other than the United States, Newfoundland and Mexico, must be accompanied by the certificate of a qualified veterinarian and of the local authority of the district whence they came, that no hog cholera,

swine plague, or foot and mouth disease has existed in said district for a period of six months prior to their shipment.

Sec. 29. A quarantine of thirty days shall be enforced upon all swine imported from countries other than the United States, Newfoundland and Mexico, to be counted from the date of clearance of the vessel carrying the same from the port at which they were embarked.

IMPORTATION OF ANIMALS FROM UNITED STATES AND NEWFOUNDLAND.

Sec. 30. All animals imported into the Dominion of Canada from the United States and Newfoundland must be accompanied by a statutory declaration or affidavit made by the owner or importer stating clearly the purpose for which said animals are imported, viz.:—Whether for breeding purposes, for milk production, for work, for grazing, feeding or slaughter, or whether they form part of settlers' effects, or whether they are entered for temporary stay, as provided by these regulations.

Sec. 31. Said declaration or affidavit must be presented to the Collector of Customs at the port of entry, who will decide whether the animals are entitled to entry under these regulations, and who will notify the Veterinary Inspector of the Department of Agriculture in all cases where the regulations require an inspection to be made.

HORSES, MULES AND ASSES.

Sec. 32. On and after March 1, 1907, the importation of branded or range western horses, mules and asses, other than those which are gentle and broken to harness or saddle, is prohibited.

Sec. 33. Horses, mules or asses, other than those comprising part of settlers' effects, shall be inspected and must be accompanied by :—

(*a*) A satisfactory certificate of mallein test dated not more than thirty days prior to the date of entry, and signed by an inspector of the United States Bureau of Animal Industry ; or,

(*b*) A similar certificate from a reputable veterinarian, provided such certificate is endorsed by an inspector of the said Bureau of Animal Industry; or,

(*c*) A similar certificate from an inspector of the Canadian Department of Agriculture.

Sec. 34. When not so accompanied such horses, mules or asses must be submitted to the mallein test either at the quarantine station where entry is made, or, under certain restrictions, at point of destination.

Sec. 35. When tested at the port of entry, if any reactors are found they shall be slaughtered without compensation or definitely marked and returned to the United States, and must not again be presented for entry. All horses, mules or asses in the same consignment shall be returned to the United States, but the non-reactors may be again presented for entry and further test after the lapse of a period of not less than fifteen days from the date of the first test, provided that satisfactory evidence is produced to the effect that they have not, during the said period, been in contact with affected animals. When tested at destination points all animals reacting to the test will be slaughtered without compensation, while those comprising the rest of the shipment will be detained in quarantine until it is shown to the satisfaction of the Veterinary Director General that they are free from disease.

Sec. 36. Horses, mules or asses forming part of settlers' effects shall be inspected and should be accompanied by :—

(*a*) A satisfactory certificate of mallein test dated not more than thirty days prior to the date of entry, and signed by an inspector of the United States Bureau of Animal Industry ; or,

(*b*) A similar certificate from a reputable veterinarian provided such certificate is endorsed by an inspector of the said Bureau of Animal Industry; or

(*c*) A similar certificate from an inspector of the Canadian Department of Agriculture.

Sec. 37. If not so accompanied such horses, mules or asses may be submitted to the mallein test by an inspector of the Canadian Department of Agriculture at any time after their arrival in Canada. If found to react within a period of six months of date of entry they will be destroyed without compensation.

Sec. 38. If on inspection at the boundary, glanders is found in any consignment, all animals comprising it shall be returned to the United States, but non-reactors may be again presented for entry and further test after the lapse of a period of not less than fifteen days from the date of the first test, provided that satisfactory evidence is produced to the effect that they have not, during the said period, been in contact with affected animals.

Sec. 39. Horses, mules and asses found to be, or suspected of being, affected with any contagious disease may be returned to the United States or otherwise dealt with as the Veterinary Director General may order.

CATTLE.

Sec. 40. All cattle shall be inspected, and if so ordered by the Minister, may be detained, isolated, submitted to the tuberculin test, dipped or otherwise treated, or in default of such order, where the inspector has reason to believe or suspect that animals are affected with or have been exposed to contagious or infectious disease.

Sec. 41. Cattle found to be diseased or suspected of being diseased may be returned to the United States or otherwise dealt with as the Veterinary Director General may order.

Sec. 42. Cattle for breeding purposes and milk production six months old or over, if unaccompanied by a satisfactory tuberculin test chart signed by a veterinarian of the United States Bureau of Animal Industry, must be detained in quarantine for one week or such further period as may be deemed necessary and subjected to the tuberculin test; cattle reacting thereto must be returned to the United States or slaughtered without compensation.

Sec. 43. Importers may be required to furnish a statutory declaration that the chart produced applies to the cattle it purports to describe and no other.

OTHER RUMINANTS.

Sec. 44. All sheep and goats shall be inspected, and, if so ordered by the Minister, may be detained, isolated, dipped or otherwise treated, or, in default of such order, where the inspector has reason to believe or suspect that the animals are affected with or have been exposed to contagious or infectious disease.

Sec. 45. Sheep or goats found to be diseased or suspected of being diseased may be returned to the United States or otherwise dealt with as the Veterinary Director General may order.

SWINE.

Sec. 46. All swine must be accompanied by a certificate signed by a veterinarian of the United States Bureau of Animal Industry, stating that neither swine plague nor hog cholera has existed within a radius of five miles of the premises in which they have been kept for a period of six months immediately preceding the date of shipment, but such swine shall nevertheless be inspected, and shall be subjected to a quarantine of thirty days before being allowed to come in contact with Canadian animals.

Sec. 47. Swine found to be suffering from contagious disease may be slaughtered without compensation, returned to the United States, or otherwise dealt with as the Veterinary Director General may order.

IMPORTATION OF ANIMALS FROM MEXICO.

Sec. 48. Any person contemplating the importation of animals from Mexico must, in addition to all other requirements of this order, first obtain from the minister a permit stating the number and kind of animals to be imported, the district and state in Mexico whence they are to be shipped and the probable date of their arrival at the Canadian port of entry. The person applying for such permit shall furnish satisfactory proof of the facts hereinbefore set forth.

ANIMALS IN BOND.

Sec. 49. Animals passing in bond through United States territory for importation to Canada must be accompanied by a certificate of health signed by a veterinarian of the United States Bureau of Animal Industry, and by an affidavit from the owner or importer that the said certificate refers to the animals in question. Such animals shall nevertheless be subject to inspection and if necessary, to detention before being permitted to enter Canadian territory. If found diseased such animals are to be subject to and dealt with according to the orders of the inspecting officer under instructions from the Veterinary Director General.

The expense of treatment, should such be deemed advisable, must be borne by the owner or importer of the animals treated.

ANIMALS IN TRANSIT.

Sec. 50. Animals may be admitted from any part of the United States into Canada for transit to any other part of the United States in bond, and (with the exception of swine) will be admitted to Canada in bond for transit to any Canadian port for exportation by sea to Europe or elsewhere. Such animals are to be subject to inspection at the Canadian port of shipment.

Sec. 51. The transit of such animals shall be subject to such regulations as the minister shall, from time to time, prescribe.

ANIMALS FOR EXHIBITION.

Sec. 52. Animals, other than swine, may be admitted for purposes of exhibition only, on inspection at port of entry, subject to the usual customs regulations.

REGULATIONS OF QUARANTINE.

Sec. 53. Quarantine stations shall be under the care and subject to the orders of the officers appointed for that purpose hereinafter referred to as superintendents, who shall have the general superintendence and control of the servants or other persons, and of all other matters connected therewith.

Sec. 54. Animals in any quarantine station shall be treated and dealt with under the direction of the superintendent of the said station and all articles used for, about or in connection with the said animals shall be in like manner subject to his direction and supervision.

Sec. 55. Cattle six months old or over imported from countries other than the United States and Mexico shall not be discharged from quarantine until they have

been submitted to the tuberculin test by the superintendent of the quarantine or other duly authorized officer.

Sec. 56. Cattle reacting to the tuberculin test, but not showing clinical symptoms, shall be permanently marked in the right ear with the letter 'T' by the officer making the test, and may then be released at the expiry of the prescribed period of quarantine if found free from all other infectious or contagious diseases.

Sec. 57. Cattle showing clinical symptoms of tuberculosis shall be destroyed or otherwise disposed of as the Minister may direct.

Sec. 58. The Minister or the Veterinary Director General may authorize the destruction of any quarantined animals or all or any portion of the articles used in the care of the said animals, and such destruction shall take place under the supervision of the superintendent, and in the manner prescribed by him.

Sec. 59. The expense of feeding, treating and providing for animals detained in quarantine, with the exception of those for the use of grounds and shelters, shall be borne by the owner or importer, and such expenses shall be paid before the animals are permitted to leave the quarantine, and in default of such payment within fourteen days after the expiration of the period of quarantine, the superintendent may, on fourteen days' notice in writing, delivered or sent by mail to the owner or importer, cause the said animals to be sold to meet the said expenses, together with the expenses of and incidental to the sale of the said animals, the balance, if any, to be handed over to the owner.

Sec. 60. No animal under quarantine shall be allowed to come in contact with any Canadian animal until duly discharged from quarantine.

Sec. 61. No animal under quarantine shall be removed from a quarantine station until duly discharged therefrom by the superintendent or other duly authorized officer.

Sec. 62. Any person removing or attempting to remove any animal from a quarantine station without the authority of the superintendent or other duly authorized officer, shall incur a penalty not exceeding $200 for every such offence.

Sec. 63. No indemnity shall be allowed for any injury or loss sustained in connection with any animal while detained in quarantine.

EXPORTATION.

Sec. 64. Canadian animals for transit to any shipping port of the United States for export by sea to Europe or elsewhere must be inspected at such places in Canada as the Minister may, from time to time, designate; must not be shipped from the place of inspection until they have been certified by a duly authorized veterinary inspector to be free from infectious and contagious disease and otherwise fit for export, and must not be permitted by collectors of customs to leave Canada unless accompanied by such certificate.

Sec. 65. Animals for exportation by sea should, if possible, reach the port of exportation not less than twelve hours before shipment for rest and inspection. Animals failing to do so shall be liable to detention in the discretion of the inspector.

Sec. 66. Inspectors shall at all times have full power to detain animals for such time as they consider sufficient to enable them to make a thorough and satisfactory inspection and to ascertain that all the provisions of these regulations relating thereto have been duly observed and complied with.

Sec. 67. Owners or persons in charge of animals for exportation shall give twenty-four hours' notice, addressed to the inspector at his office, stating the number and kind of such animals and the expected time of their arrival at the port of exportation.

Sec. 68. No animals, except as hereinafter provided, shall be permitted to be placed on board any steamship or other vessel for exportation at any Canadian port until they have been inspected and approved by a duly authorized veterinary inspector at such port, and certified by him to be free from contagious disease and in every way fit for export; such inspection to be made within twenty-four hours of embarkation.

Sec. 69. Inspectors shall, in the performance of their duties, have free access to any ship, car or other vehicle and to any yard, stable or place where animals may be found.

Sec. 70. All inspections for export must be made in daylight.

Sec. 71. Owners or shippers of stock during the progress of inspection at any port of exportation shall, with the means at their disposal, give every required assistance to the inspector at such port, and move the animals according to his directions. In case the owner or shipper refuses or neglects to furnish the necessary assistance, the inspector may employ men at the cost of the owner or shipper, and such cost shall be paid to the inspector before a clean bill of health is given.

Sec. 72. Any unauthorized interference with animals after inspection, whether by substitution or otherwise, or any other evasion, or misrepresentation, will be deemed a breach of these Regulations.

Sec. 73. Inspectors may, if they deem it advisable for purposes of identification, mark animals inspected by them. A certificate of inspection, stating the name of the owner, the number, sex and class of animals in the consignment and certifying to their freedom from contagious disease, will be furnished by the inspector, and must be produced to the Collector of Customs before embarkation.

Sec. 74. Such animals as may have been exposed to contagious or infectious disease, or affected with, or suspected of being affected with, contagious or infectious dasease, shall be detained and dealt with according to the orders of the inspecting officer under instructions from the Veterinary Director General.

Sec. 75. Inspectors may reject animals for any reasonable cause.

Sec. 76. The Minister may from time to time order that the provisions of these Regulations requiring the inspection and certification as aforesaid, may be waived in the case of animals exported to any country when in his opinion such action is necessary and desirable.

Sec. 77. The Collector of Customs of any port in Canada whence animals are exported shall not give a clearance to any ship having animals on board for exportation, other than those exempted by Ministerial Order under the provisions of the preceding section, without having produced to him a certificate, signed by the inspector, to the effect that the animals therein referred to are free from contagious and infectious disease and in every way fit for shipment.

INFECTED VESSELS.

Sec. 78. Vessels which have carried cattle, sheep or other ruminants, among any of which 'Foot and Mouth Disease' shall have been found, shall be prohibited, for a period of sixty days thereafter, from loading cattle, sheep or other ruminants or swine, in any Canadian port; and, further, until such vessels shall have been thoroughly cleansed and disinfected, under the supervision of an inspector or other duly authorized officer.

CUSTOMS OFFICERS.

Sec. 79. Collectors of customs throughout Canada shall see that the various exigencies and requirements of the present order are fulfilled before granting any permit which requires, before it is given, any act to be performed, or any inspection or other proceeding to be made or taken, and they shall see that the prohibitions prescribed and rules established by this order as hereinbefore mentioned, and the instructions which may be issued by the minister are obeyed, and in case of any infraction of the provisions of the present order, or any of them, taking place, they shall report at once to the Minister the nature and extent of such infraction.

GENERAL PROVISIONS.

Sec. 80. To provide against the possibility of diseased animals being carried from place to place, through Canadian territory, or conveyed to and shipped from ports, it is ordered as follows:—

An inspection of animals may be made at any place or time by any veterinary inspector under authority from the Veterinary Director General.

Sec. 81. Inspectors shall, in making such inspection, have free access to any vessel, car, yard, stable, shed or place which they may deem it necessary to enter.

Sec. 82. Such animals as may be found affected with or to have been exposed to contagious or infectious disease, shall be dealt with according to the provisions of the Animal Contagious Diseases Act, 1903.

Sec. 83. On infectious or contagious disease of animals being discovered on board any steamship, vessel or car, or in any stable, shed, yard or other place, it shall be the duty of the inspector, on the removal of the infected animal or animals, to superintend the thorough disinfection of such steamship, car, stable, shed, yard or other place, without loss of time, in the manner prescribed under the general regulations for disinfection of premises.

Sec. 84. All yards, stables, sheds, or other premises used (by railway or steamship companies or other persons) for the accommodation of animals shall be maintained in a clean, comfortable and sanitary condition and shall be subject at all times to inspection by inspectors acting under the authority of the Minister, who, when they deem such action necessary, may order the cleansing and disinfection in a satisfactory manner of the said yards, stables, sheds, or other premises as provided in the Animal Contagious Diseases Act, 1903.

Sec. 85. In the event of any owner, lessee or occupant of any yard, stable, shed or other premises (or any railway or steamship company or person) refusing or neglecting to carry out the orders of the inspector in regard to cleansing and disinfection as aforesaid or in the event of such owner, lessee or occupant, company or person neglecting to maintain his or its yards, stables, sheds or other premises for the use of animals, in a clean, comfortable and sanitary condition, the inspector may condemn the said premises as unfit for use, whereupon the said premises shall not be used for the accommodation of animals until such time as the orders of the inspector in regard thereto have been satisfactorily carried out.

Sec. 86. No animals are to be allowed to be placed on board cars till the litter from the previous load has been removed and the cars whitewashed with lime and carbolic acid, in the proportion of 1 pound commercial carbolic acid to 5 gallons of lime wash.

Sec. 87. Shippers may refuse to place their animals on uncleaned cars, and may lodge a complaint with the nearest inspector, who shall either cause such cars to be cleansed and disinfected, as above, at the expense of the railway company, or shall prohibit their use until they have been so cleansed and disinfected.

Sec. 88. Any person who violates any provision of the Animal Contagious Diseases Act, 1903, or any provision of this order, shall incur the penalties prescribed by the said Act.

No. 16.

MANGE.

By Orders in Council dated July 10, 1905, and June 27, 1904.

Whereas the disease of Mange exists among cattle throughout those portions of the Territories of Assiniboia and Alberta which may be described as bounded by the international boundary, the Rocky Mountains and a line drawn as follows :—

A line from the Rocky Mountains along the southeastern boundary of the Stoney Indian reserve, then along the northeastern boundary of the said reserve to the main line of the Canadian Pacific Railway, thence easterly along the said line of railway to the line between ranges 5 and 6, west of the 5th meridian, thence north along that line to the line between townships 28 and 29, thence east along that line to the line of the Calgary and Edmonton Railway, thence north along the Calgary and Edmonton Railway to the line between townships 30 and 31, thence east along that line to the line between ranges 26 and 27 west of the 4th principal meridian, thence north along that line to the line between townships 34 and 35, thence east along that line to the Red Deer river, thence north along the Red Deer river to the line between townships 38 and 39, thence east along that line to the 4th principal meridian, thence south along the 4th principal meridian to the Red Deer river, thence along the Red Deer and Saskatchewan rivers to the line between ranges 7 and 8 west of the 3rd meridian, thence south along that line to the international boundary line.

And whereas it is of the greatest importance to the interests of stock owners and to the preservation of a profitable market for western cattle that the policy adopted last year (1904) with a view to the eradication of the disease in question should be continued

That after careful inquiry and due consideration it has been decided that the period between August 15 and October 31 is the most suitable and convenient for treatment with the above object.

Therefore the Governor General in Council, in virtue of the provisions of section 29, chap. 11, 3 Edward VII., intituled 'An Act respecting Infectious or Contagious Diseases affecting Animals,' is pleased to order that the above described tract of land shall be, and the same is hereby declared an infected place, and that all persons owning or being in charge of cattle within the above described tract must, during the said period, dip or otherwise treat such cattle in a manner satisfactory to the officers of the Department of Agriculture, provision being made that where it can be clearly shown to the satisfaction of the said officers that cattle, kept under fence in any well defined area or district within the said tract, are not affected with, and have not been in any way exposed to, the contagion of Mange, or have been, during the present season, treated in a satisfactory manner and subsequently kept isolated from all other cattle, the Veterinary Director General may, on the facts being reported to him, except such area or district from such compulsory treatment, but this provision shall in no case apply to cattle kept on the open range, or on unfenced land.

Satisfactory treatment shall consist of immersion for not less than two minutes in a solution of lime and sulphur of a strength of not less than 10 pounds of lime and 24 pounds of sulphur to 100 gallons of water prepared according to the directions of the officers of the Department of Agriculture.

When approved by the inspector in charge of the district in which the cattle to be dealt with are kept, persons owning or controlling herds of not more than thirty head may be permitted to treat their animals by hand, in which case the following preparation shall be used :—

Sulphur	2 pounds
Oil of tar	8 ounces
Raw linseed oil	1 gallon

In either case the fluid shall be applied at a temperature of not less than 105° nor more than 110° Fahrenheit, and the treatment shall be repeated after an interval of not less than ten nor more than fifteen days.

In the event of any owner failing to treat or to make satisfactory preparation for the treatment of his cattle on or before October 15, the provisions of the Order in Council, dated June 27, 1904, regarding compulsory treatment as quoted above, shall be enforced.

The Governor General in Council is further pleased to order that no cattle shall be removed or be allowed to move out of the hereinbefore described tract unless they are accompanied by the certificate of an inspector of the Department of Agriculture stating that they have been examined by him and found free from contagion of mange. Any such cattle, however, shall, if deemed advisable by the inspector, be detained, dipped, sprayed or otherwise treated in such manner as the Veterinary Director General may, from time to time, prescribe.

No railway company shall accept or load any shipment of cattle at any point within the said tract except for immediate slaughter as hereinafter provided unless such shipment is accompanied by the certificate of an inspector.

At points where cattle originating in the said district are unloaded they shall be placed in special yards and such yards shall be used for no other purpose and shall be cleansed and disinfected when so ordered by an inspector.

All cars and other vehicles used for the carriage of such cattle shall be cleansed and disinfected to the satisfaction of an inspector as soon as possible after being unloaded and before being used for any other shipment.

All way-bills and bills of lading accompanying shipments of cattle originating within the said tract shall have plainly written or stamped across the face thereof a notification that the said cars are to be cleansed and disinfected immediately after being unloaded.

Cattle affected with, or which have been exposed to the contagion of mange may be shipped for immediate slaughter to points within the above described tract under the following conditions:—

(1) Unless loaded through special yards and chutes reserved exclusively for such shipments, all yards and chutes used by them shall be declared infected places and shall not be again used for the shipment of healthy stock until cleansed and disinfected to the satisfaction of the inspector; they shall not be allowed to come in contact with other animals; shall be consigned direct only to such slaughter houses within the hereinbefore described tract as are provided with private yards and chutes; shall not be unloaded at any point en route and shall under no pretext whatever be removed alive from the slaughter house or the yards and premises immediately connected therewith.

(2) Cars conveying such cattle shall be cleaned and disinfected to the satisfaction of an inspector immediately after being unloaded.

That the transit of cattle through the said tract is permitted subject to the following regulations :—

(1) Cattle for transit by rail through the said tract from one part of Canada to another shall, at points where unloading is necessary, be placed in yards reserved for their exclusive use, and shall not be permitted to come in contact with cattle which have originated within the said tract.

(2) Cattle imported from the United States into the said tract destined for points in Canada outside thereof may, under compliance with the quarantine regulations, and with the provisions of the next preceding section hereof, be permitted to pass without unnecessary delay through the said tract direct to their destination without further restriction.'

'Every veterinary inspector, and every person duly authorized by a veterinary inspector shall have full power to order animals affected or suspected of being affected with mange to be collected for inspection and, when necessary, to be detained, isolated or treated in accordance with the instructions of the Veterinary Director General.

The expenses of and incidental to such collection, isolation and treatment, shall be borne by the owners of the animals, and if advanced by the inspector or other authorized person shall, until paid, be a charge upon the said animals, without prejudice however to the recovery of any penalty for the infringement of these regulations.

If such expenses are not paid within twenty days of the time when they have been incurred, the inspector or other duly authorized person may proceed to sell the said animals by public auction after giving to the owner ten days' notice in writing of such intention to sell, which notice may be effectually given, where the owner is known, by delivering the same to him personally or by sending it by mail addressed to him at his last known place of residence. Where the owner is unknown, such notice may be effectually given by publication in one issue of a newspaper published or circulating in the district where such animals are detained. The proceeds of such sale shall be applied first in payment of the reasonable expenses of the collection, isolation, treatment, giving of notice and conduct of sale, and the balance, if any, shall be paid to the owner of said animals on demand. Any balance not so paid shall be remitted to the Minister, and if not claimed within twelve months from the date of sale shall be paid to the credit of the Receiver General.'

The amount charged for the treatment of stray cattle, or of cattle whose owners neglect or refuse to comply with the above orders, so far as they refer to treatment, shall in no case exceed twenty-five cents per animal for each dipping or application, provided that where it is necessary to collect such animals and to hold them for the second dipping or application, an additional sum of one dollar per animal may be collected.

The department assumes no responsibility for injury or loss to cattle incurred through compliance with the provisions of these orders as regards treatment.

All persons engaged in breeding, exporting, dealing in, driving or shipping cattle, and all transportation companies, are requested to co-operate with this department in enforcing the above provisions.

Outbreaks occurring outside of the area defined above will be dealt with under the general Order in Council, dated June 27, 1904.

No. 17.

TOBACCO.

(Report of F. Charlan.)

Ottawa, March 31, 1907.

Sir,—I have the honour to submit the following report of the work of the Tobacco Division, from April 1, 1906, to March 31, 1907.

During the winter of 1905-6, an experiment in the curing of Canadian tobaccos had been carried on at the establishment of the Dominion Tobacco Company, Montreal, the experiment being concluded about the middle of May, 1906. Samples of the cured products were submitted to numerous Canadian manufacturers for criticism. It was our idea that such criticism, in the aggregate, should enable us to obtain products which should be as satisfactory as possible to the manufacturer, thereby improving the situation of the grower through an increase in the consumption of natural leaf.

The results of the experiment, and of the opinions of interested experts, referred to, were enumerated in a report which I had the honour to submit to you in September last.

Despite statements to the contrary, it may be definitely and positively asserted that Canadian tobaccos possess first-class qualities, and that the prospects of the industry in Canada are very bright.

A favourable criticism was received also from the experts of the French tobacco administration, to whom a larger sample had been sent. Exportation, however, is out of the question at present, owing to the general condition of our products, and the high prices paid in our own home markets.

An endeavour was made to encourage the growing of varieties yielding products suitable for the manufacture of cigars, as binders or fillers, American tobacco seed being distributed for this purpose amongst the agricultural clubs of Quebec in the spring of 1906.

Canada imports annually from Wisconsin and Connecticut large quantities of leaf tobacco, for the manufacture of cigars. It would be interesting to ascertain if our country is able to produce similar tobaccos, and by such production be exempt in the near future from the heavy tolls actually paid to Wisconsin, Pennsylvania and Connecticut.

With a view to such production, experimental plots were established in those parts of Canada where farmers were already accustomed to the growing of smoking tobacco, particularly in the counties of Montcalm and Rouville. A similar trial was also undertaken on a plot of the Central Experimental Farm.

These experiments were seriously interfered with by the prolonged drought which prevailed during the summer of 1906. However, such as they were, they proved beyond a doubt that the varieties Havana Seed Leaf and Comstock Spanish may be grown with success in Canada and will yield very satisfactory products.

On the trial plot at the Central Experimental Farm, yields were obtained averaging from 1,400 to 1,800 pounds per acre, according to the distances at which the plants had been set. It should be noted, however, that these yields were arrived at by calculating on the basis of a plot free from bare spots. Moreover, the land was more heavily

manured than the average of the lands under tobacco cultivation in Canada. But the fact remains that the yields in this country could easily be increased without much extra cost, thus greatly improving the profits of the farm.

Some farmers in Ontario were induced to undertake experiments in hilling and thinning operations, which, generally speaking, are not practiced in that province. Here, again, the drought interfered with our work, and the conditions threatening to be very unfavourable for the carrying on of these experiments, the growers voluntarily gave up the work. In Essex county, the presence of large quantities of cutworms was another cause of the discontinuation of the trials.

The fall of 1906 was eminently favourable for ripening and drying, and contributed in a large measure to the success of the crop, which looked very doubtful at the beginning of the summer. Careful growers were able to observe the advantages of proper curing. In a normal year, curing cannot be done properly unless the crop is harvested early, that is, by the 15th September, and consequently the plants must be set out at as early a date as possible.

The manufacturer to whom the crop obtained on the Central Experimental Farm was sold, greatly appreciated the grading of the products. However, this crop was only rapidly sorted at the time of stripping, as soon as the drying was completed and before being handed over to the manufacturer. But, compared to the condition in which leaf tobacco generally is, as presented by the farmers of the country, the crop in question seemed graded. This favourable appearance of the shipment enabled us to obtain a price a little above the average, and that before the opening of the market of 1906-7 (November, 1906).

As a result of the campaign of 1906, a larger quantity of fine smoking tobaccos was produced in the counties of Montcalm and Rouville. These products were noticed by the manufacturers, in the course of visits in Rouville, and at the annual exhibition of St. Jacques de l'Achigan (Montcalm). They will, to a large extent, bear comparison with the products which we were trying to imitate.

The year 1906 was too dry for the best results in the growing of light tobaccos. Owing to the inferior development of the products, the yield, in many cases, was unsatisfactory. Nevertheless, the increased demand for these tobaccos shows conclusively that they may, with advantage, take the place of imported tobaccos of a similar nature, and we may expect to see them grown on a larger scale in the future.

This encourages the continuation of experiments, and the dissemination of results obtained. There can be no doubt that the present work is a splendid object lesson to the Quebec farmers, of the advantages of growing products suitable for the manufacturer; a phase of the industry which has long been neglected owing to the lack of a suitable market.

The methods which we are recommending are intended to meet the needs of the present time in the districts chiefly engaged in the growing of smoking tobaccos (also called black tobaccos). With moderately close planting, and early topping, it will be possible to secure a heavier yield to the acre, as well as lighter and finer products of improved quality. Thus the farmer will gain both in the yield and the average price of the product—two elements of prosperity.

We hope to make such an improvement in our home tobaccos that they will be entirely acceptable to the Canadian industry, and thus, through the resultant increased consumption, avoid the over-production which unfortunately has begun to be felt in some parts of the country.

A bulletin treating of 'the growing of tobacco in general (Bulletin No. 3), has been prepared in order to meet the demand for general information addressed to the Department of Agriculture. The spring of 1907 has been spent in planning the series of experiments and trials which is to be carried on in the course of the present year.

Towards the end of the last session of parliament, I was called upon to give evidence before the Standing Committee on Agriculture and Colonization, on the

subject of the tobacco industry in Canada. Twenty thousand copies of this evidence are to be printed for general distribution.

I have the honour to be, sir,

Your obedient servant,

G. CHARLAN,

Chief of the Tobacco Division.

The Honourable
The Minister of Agriculture,
Ottawa.

No. 18.

REPORT OF THE CANADIAN EXHIBITION COMMISSIONER TO THE MILAN INTERNATIONAL EXHIBITION, 1906—MILAN, ITALY.

The Milan International Exhibition was held principally to celebrate the opening of the Simplon Tunnel, by which an important additional line of railway now connects the European systems with those of Northern Italy, the accomplishment of this gigantic engineering undertaking was a matter of international concern, and it was fitting that it should be celebrated in a manner commensurate with its importance. While the arts, industries and sciences were adequately represented in the exhibition, the section relating to 'transportation by land' was appropriately enough, one of the principal features of the undertaking, in fact, by the original project, the exhibition was to have been limited to land and sea transportation, the two great industries chiefly affected by the opening of the new tunnel, which is 12¼ miles long—the longest in the world.

This exhibition was the first undertaking of this kind ever attempted in this country, having an international character, and the geographical position of Milan—the commercial capital of Italy—in relation to neighbouring countries, and the large measure of international support that it received, made the exhibition one of first importance, not only to Italy itself, but to those other countries which were interested in maintaining and extending their commercial relations with that country.

The exhibition was promoted under the most promising auspices, for it was not only under government and municipal patronage, but was supported by substantial money grants by the state and municipality.

The sites of the exhibition were within easy access of the city of Milan, lying to the northwest of it, and included a portion of the public park and the Piazza d'Armi; these were connected by an overhead electric railway specially built for the purpose; the area of the grounds was 990,000 square metres, of which about 250,000 metres were covered by buildings.

The exhibition was divided into ten principal sections, nine of which were international and one national, as follows:—,

1. Transportation by land.
2. Transportation by water.
3. Social Economy.
4. Manufacturing and Decorative Arts.
5. Working Exhibits (Machinery).
6. Retrospective Transportation.
7. Fisheries and Pisciculture.
8. Agriculture.
9. Hygiene.
10. Fine Arts (National).

There were also short term exhibits throughout the whole period of the exhibition. These included Live Stock, Horticulture, Dairy Produce, &c.

The comprehensive character of the exhibition may be realized from the fact that there were 267 groups and 1,186 classes.

The international character of the exhibition will be gathered from the large number of countries participating, which included Great Britain, France, Germany, Aus-

tria, Belgium, Hungary, Switzerland, Holland, Norway, Sweden, Spain, Portugal, Russia, China, Japan, Greece, Montenegro, Bulgaria, the Argentine, Persia, Peru, Roumania, Brazil and Turkey. Canada was the only British colony represented.

CANADA.

As has been usual of late years, Canada in participating did so in a building of her own, including therein all her exhibits, instead of dividing them up in the various special buildings allotted to the different products; in this manner the whole exhibit was directly under our own control, and the various products were so placed and installed as to blend in a harmonious whole.

The Canadian pavilion was a frame building covered in galvanized iron (corrugated); it was 96 by 160 feet, the four corners rising in towers, an entrance and an exit being provided in one of the shorter sides. This proved very valuable when the large excursions came—and they were numerous—as it avoided much inconvenience and possible trouble, for at times the crowds were so great they had to be handled with the utmost care. The only exterior decoration was a series of large maple leaves, at intervals, in gables round the building. These were coloured with autumnal tints and were much admired. The building was divided on both sides into a series of alcoves 15 by 20 feet, in each of which was placed a specific exhibit; an extension at the end contained the panorama of the west and the specimens of game and fur-bearing animals. To the left of this were the offices, and in the centre the larger exhibits, as described later.

THE AGRICULTURAL EXHIBIT.

Consisted principally of the grains, threshed and in the straw, grasses, tobacco, and a great variety of food products, natural and manufactured. The grains in straw and grasses were used as the decorative features of the whole building, being festooned and arranged in various designs, as well as to form frames, panels and many other figures. In connection with this exhibit, a series of large paintings were exhibited. These were enlargements from photos of Canadian farm scenes, including ploughing, harvesting, threshing, stacking, old and new homesteads, cattle, horse and sheep ranches. The enlargements were made on linen by a patent process, and hand-coloured. In day time they are fine oil paintings, while at night they are beautiful and attractive transparencies. In some of the alcoves the threshed grain in glass jars was prominently exhibited, all the numerous varieties of wheat, oats, corn, barley, rye, beans, peas, and grass seeds, tobacco, maple sugar and syrup, honey, tinned milk, cream, vegetables of all kinds, and many other food and agricultural products, such as flour, cereal foods, &c. A certain number of agricultural implements were also shown in this section.

THE HORTICULTURAL EXHIBIT.

This exhibit contained a great number of the numerous varieties of apples for which Canada is now so favourably known; those displayed on plates in their natural state were the subject of many expressions of wonder, and certainly did their share in causing the exhibit to become so well and favourably known. A shipment of new apples received in the early autumn was distributed among the leading notabilities and officials connected with the exhibition, as well as at Rome, and were the cause of many very favourable expressions of wonder, the general trend of these expressions being that the fruit was better flavoured, and had more aroma than the local fruit, which they did not seem to understand. There were also many varieties of these apples preserved in antiseptics, as well as a number of varieties of pears, peaches, plums, quinces, apricots, strawberries, gooseberries, raspberries, currants, and many others too

numerous to mention. All these and others were also exhibited tinned and preserved. As a background to this exhibit a large painting showing a shipping scene at a Canadian port was prominently displayed, and much commented on. This exhibit was the subject of many expressions of astonishment, the impression in southern Europe being that Canada could not produce such fruit as that exhibited, more especially the grapes, peaches and pears, and it certainly very effectively dispelled many erroneous ideas of the climate of the country.

ECONOMIC MINERALS.

This exhibit was as effective and surprising as that of the horticultural section; few people had any conception of the great number of our economic minerals and the vast quantities we have of them. Those most in evidence were nickel, mica, corundum, asbestos, cobalt, coal, iron, copper, graphite and silver. These were destributed according to the size of the exhibit. Those specimens of small size were displayed in the special knock-down show table cases we had specially constructed for this purpose, the larger specimens, such as asbestos and nickel, were placed in pyramids, showing the crude mineral as it occurs, as well as the various forms in which it is manufactured from the raw material to the finished product. Many expressions of surprise were used by importers when they ascertained that mica was essentially a Canadian product, as they procured their stock from New York and were sure it was of United States origin. The same remarks were made about our nickel, asbestos and other minerals. The placer gold collection proved a very attractive feature, as did also the nuggets and rich quartz displayed in a safe under a specially constructed mineral trophy.

Some of our figures—prominently displayed—giving the production of minerals as ranging in some cases from 60 to 95 per cent of the world's production were much commented on and in certain cases statistical information had to be supplied to bear out the statements.

FORESTRY.

In this section the leading varieties of Canada's immense timber resources were very prominently displayed; the pulpwood was placed in a large pyramid showing the wood both with and without the bark, chipped, in the pulp and paper—these latter set in and on the pyramid, to complete the whole. The many varieties of the leading constructional woods as well as the cabinet-making varieties were all shown, some in the trunk, others in sections, squared, in deals, boards, &c. Panels were also shown as well as boards highly polished, doors, sashes, bent wood, hubs, lath, lasts, and many other manufactures, the varieties being pine, spruce, fir, tamarac, birch, maple, cherry, walnut, ash, cedar, elm, oak, hickory, basswood, sycamore, &c.

FAUNA.

As already stated, at the end of the building a space 60 by 20 contained a panorama of the west and specimens of certain game and fur-bearing animals; the foreground of this inclosure was filled in by all the animals exhibited, comprising elk, moose, caribou, buffalo, wapiti, mountain sheep and goat, grizzly bear, brown and black bear, polar bear, musk-ox, wolf, red fox, white fox, blue fox, badger, fisher, beaver, lynx, marten, mink, skunk; also some water fowl; for the background a painted scene 90 by 15 illustrated the great Canadian west, beginning at one side with a typical farmhouse and yard with a small lake in front; adjoining this a scene of activity, with reapers at work, another showing the newcomer breaking the prairie, then a large herd of cattle representing a ranch with cow-boys, further on a horse ranch, then a mountain scene losing itself in the woods and northern forest. The artistic effect of this

scene especially strikes one by its depth, showing as it does the unlimited expanse of prairie. This whole scene was the most striking feature of the exhibition.

READING MATTER.

Throughout the whole exhibit, on panels, posts, easels and wherever a convenient spot presented itself, a salient fact or striking figure of Canada's importance and progress were displayed. These were in nearly all cases in Italian, English and French, and were very largely copied and used by many interested visitors.

Then a large quantity of literature was distributed in the three languages already mentioned; this was of the usual description and was much sought for; a very large number of letters being received asking for copies. The pamphlets were greatly prized and it was a very rare thing to see a copy left lying in the grounds, as often occurs at exhibitions generally.

EMIGRATION.

In opening the exhibit in Italy some fear was expressed that we might find the Royal Italian Emigration Commission adverse to our display, as it seemed to be generally thought the main object of the exhibit was to carry on a huge emigration scheme, which is not permitted in the country, all this work having to be done through the commission already referred to; the exhibit, however, seems to have spoken for itself as a large and general exhibit of our country and its natural products. Care was, however, taken to furnish the Emigration Commissioners with copies of our literature and inquiry made if there was any objection to its distribution. The commissioners not only offered no objection to its distribution, but after careful perusal undertook—should we at the close of the exhibition have any literature remaining over—to distribute it for us and in the most judicious manner possible, and in such a way as to give the most direct beneficial results.

Senator Bodio, Admiral Reynaud and Commendatore Rossi, the active members of the commission, were all very much interested in our exhibit and asked for a great deal of information about Canada, more especially from an emigration point of view.

There were quite a large number of inquiries from farmers of Northern Italy who would like to go to Canada, but as this section of Italy has in the past furnished the greater number of emigrants to the Argentine Republic, it was a serious question with them to go to a country with which there was not a direct line of steamship communication, as is the case with almost all the other American countries, besides which the representatives of the lines running to other American countries did all in their power to divert traffic to their own lines and to the disadvantage of Canada.

COMMERCIAL INQUIRIES.

The number of commercial inquiries received was very large and extended over the whole range of our exhibits. In fact we received inquiries for articles which were not on exhibit, notably, one merchant on coming in noticed a 20-foot maple leaf made in grains. He immediately inquired what it represented, and on being told it was the maple leaf, asked if rubber shoes bearing the trade mark of the maple leaf were made in Canada and was very much surprised to receive the answer in the affirmative. He then explained that he was buying rubbers with this trade mark, but had been getting them from Germany, and now that he knew they came from Canada he would be able to enter into direct relations with the Canadian firms.

The same remarks were made about mica, asbestos and other products which were supposed in every case to be of United States origin. Timber, coal and iron were also largely inquired for. In every one of these cases all the information sought for was

granted, and where addresses were asked it was invariably the rule to give a series of names, always placing them in alphabetical order, and where there was an uncertainty as to the advisability of giving names, the inquirer was referred to the secretaries of the different boards of trade or produce exchanges in the leading cities.

The exhibition closed before there was really any time to judge of tangible results in this branch, but a number of cases are known where correspondence had been entered into and appearances indicated that commercial relations would be established in at least a number of lines.

ATTENDANCE.

The attendance at the exhibition was particularly large, and was not confined to the Italians of the immediately surrounding country, but included a very large number from Switzerland, France, Austria, Hungary and other surrounding states. The Canadian pavilion was, in thousand of cases, asked for at the entrance, and the building was almost constantly full of visitors, at times it being necessary not only to watch and control the crowd but to close the entrance door for short periods to avoid possible crushes.

Apart from the very large number of sightseers, we were favoured with visits from His Majesty King Victor Emmanuel and Queen Helena; also the Queen Margherita, who visited us on three different occasions, besides a number of other princes and princesses of the royal blood. We also were honoured with visits from the majority of the ministers forming the Italian cabinet, notably the Prime Minister, Signor Giolitti; the Minister of Foreign Affairs, Signor Tittoni; the Minister of Agricutlure, Signor Cocco-Ortu. All of these we had the pleasure of receiving in the office, and they conversed very freely about our exhibit, eulogizing it and asking many leading questions of importance in connection with the country in general. The Minister of Agriculture emphasized his approval by instructing all the deputy ministers of his department to be sure and visit the Canadian exhibit, which, to our knowledge, a number of them did.

The Papal Delegate to Canada, His Excellency Mgr. Sbaretti, who was sojourning in Italy, also did us the honour of visiting our pavilion, and, much to our gratification, made it his headquarters during his stay in Milan.

A large number of clergymen of all denominations sought much information, as did also a great many teachers who seemed desirous of obtaining all the details possible with a view of imparting it to their scholars, and using it in their schools generally.

The press was also favourably impressed with our exhibit, and their comments were not only liberal but flattering.

AWARDS.

The exhibition was a competitive one, and, as already stated, was divided into a large number of groups and sections. The Canadian exhibit was, however, placed *hors concours,* but, notwithstanding this, the collective jury unanimously decided that a prize should be offered to Canada, not only for its collective exhibit, but for the general display and the manner of decoration. We were therefore in this manner awarded the highest prize available, viz., a 'Grand Prix.'

In conclusion, it is a pleasant duty to acknowledge with thanks the many and kindly courtesies extended to our staff by all the officials of the exhibition, with many of whom we were in constant contact, not only officially, but in a social way, during the course of the exhibition, and who spared no efforts to make our stay as pleasant and agreeable as possible.

I also deem it my pleasant duty to give expression of thanks to the members of the staff, all of whom performed their duties in a most competent and painstaking manner, sparing themselves no amount of trouble in seconding my efforts to make the exhibit a permanent and creditable success for the country.

WM. HUTCHISON.

The Honourable
The Minister of Agriculture,
Ottawa.

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REPORT

OF THE

DAIRY AND COLD STORAGE COMMISSIONER

Year ending March 31, 1907

PRINTED BY ORDER OF PARLIAMENT

OTTAWA
PRINTED BY S. E. DAWSON, PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1907

[No. 15a—1908.]

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TO THE

REPORT OF THE MINISTER OF AGRICULTURE

BEING THE

REPORT OF THE DAIRY AND COLD STORAGE COMMISSIONER

OTTAWA, March 31, 1907.

To the Honourable
The Minister of Agriculture.

SIR,—I have the honour to submit my report as Dairy and Cold Storage Commissioner for the year ending March 31, 1907.

The Report is presented in five parts, as follows:—

Part I.—Dairying.
Part II.—Report of the Assistant Dairy Commissioner.
Part III.—Extension of Markets.
Part IV.—Fruit.
Part V.—Cold Storage

The foregoing subdivisions of the work of the branch indicate the different heads under which our work is carried on. The officers of the different divisions have certain specific duties assigned to them, but owing to the nature of the work as a whole, there is necessarily much co-operation and even overlapping. I am very pleased to be able to say that every member of the staff has shown a desire to work only for the general good of those phases of agriculture and commerce, the promotion and improvement of which the branch is charged with.

Dairying.—The active work in dairying carried on by this branch in 1906 was the operation of the four cool cheese curing rooms and the organization of cow testing associations. The records of associations, prepared by Mr. C. F. Whitley, are quoted at some length. The dairy staff has been increased by the appointment of Mr. D. M. Macpherson, whose duty it will be to watch for violations of the laws relating to the manufacture and sale of butter and cheese. Mr. Geo. H. Barr, Chief Dairy Instructor in western Ontario, and Superintendent of the Strathroy Dairy School, has also been engaged as assistant in dairying and will take up his duties about April 15.

The Assistant Dairy Commissioner, Mr. J. C. Chapais, who resides at St. Denis (en bas), Que., is employed largely in French-speaking districts, and finds his time well occupied in attending numerous agricultural, fruit and dairy meetings, visiting cheese factory syndicates and lecturing at the St. Hyacinthe Dairy School. Mr. Chapais presents an interesting review of his year's work.

Extension of Markets.—Under the head of Extension of Markets, as the name implies, efforts are made to improve the trade in dairy produce, fruit and other food products. Believing that one of the most effective means to that end is to deliver our products to consumers at home and abroad in the best possible condition, a complete system of inspection has been established, which embraces the iced car services, the loading of perishable cargoes at Montreal and other Canadian ports, and the discharge of same at the principal ports in Great Britain. Records of temperatures of perishable produce are obtained at different stages in transit, and the information thus obtained is used to show the necessity for improvement, where faulty methods of handling are discovered. Mr. W. W. Moore, to whom is assigned the duty of supervising this inspection and compiling the data thus made available, has prepared the report on this division of our work.

Fruit.—This branch of your department deals largely with what may be termed the commercial side of the fruit industry. The chief duty assigned to the Fruit Division is the administration of the Fruit Marks Act. For this purpose a staff of 8 permanent and 9 temporary inspectors, for the active season, are employed. The compilation of a monthly fruit crop report, from May to October, involves considerable labour and requires a careful study of the situation in the fruit districts month by month. Information *re* markets, methods of marketing and instruction in box packing have all received attention. The staff of the Fruit Division has been strengthened by the appointment of M. R. Baker, B.S.A. Mr. A. McNeill, chief officer of the division, has prepared that part of the report which deals with the fruit work.

Cold Storage.—Although treated separately and recognized as a division of the branch, cold storage is closely related to the other lines of work carried on by the branch. Without the products of the dairy and the fruit farm there would not be much use for cold storage in this country. The inspection work of the Markets Division relates largely to the cold storage services and the products handled in cold storage. The work of the Cold Storage Division will be increased by the administration of the Cold Storage Act, which is reprinted with the regulations made to assist in its operation. The records of butter temperatures and quantities of produce carried in cold storage have been compiled by Mr. Moore, of the Markets Division.

PUBLICATIONS.

Since last report the following bulletins have been issued:—

No. 11. General Instructions *re* the Fruit Marks Act.

No. 12. Cow Testing Associations, with Notes on the Sampling and Testing of Milk.

A Report of the Annual Convention of the Huntingdon District Dairymen's Association.

Before this report is ready for distribution the following additional bulletins will be available:—

No. 13. Sweet Cream Butter.
No. 14. Apparatus for the Determination of Water in Butter.
No. 15. Gathered Cream for Buttermaking.
No. 16. Cold Storage Subsidies.
No. 17. Butter-making on the Farm.
No. 18. Co-operation in the Marketing of Apples.
No. 19. The Packing of Apples in Boxes and Barrels.

A map of Canada has been prepared showing the approximate location of all the cheese factories, creameries and combined factories.

ACKNOWLEDGMENTS.

I consider myself fortunate in having associated with me a particularly efficient and capable staff, without whose hearty co-operation and active interest in the work it would be impossible for me to carry on so many different lines of work successfully. Where all have done so well it is impossible to discriminate.

The branch lost an efficient member of its staff by the death of Mr. Richard Burke, Fruit Inspector for Prince Edward Island, who passed away after a severe illness in September last.

Mr. C. E. Mortureux, who was for several years connected with the Cold Storage Division, rendering excellent service, has been promoted to another position in the department.

I am indebted to Mr. Jas. White, Geographer of the Department of the Interior, for the technical work involved in the preparation of the maps included in this report and also the dairy map of the Dominion.

I am also indebted to Mr. Frank T. Shutt, Chemist, Experimental Farms, for assistance and advice on chemical questions.

I have the honour to be, sir,

Your obedient servant,

J. A. RUDDICK,
Dairy and Cold Storage Commissioner.

PART I.—DAIRYING.

THE PROGRESS OF DAIRYING IN CANADA.

ONTARIO AND QUEBEC.

Ontario and Quebec continue to produce the bulk of the cheese and butter made in Canada, and the development of the industry in these two provinces seems to have reached a point where there is not very much change in the situation from year to year, except the fluctuations due to climatic, market and other conditions. There is some multiplication of factories in both provinces, but the territory is now for the most part pretty well occupied, and new factories which are erected have to compete, as a rule, with existing ones for their supply of milk. In the Lower Lake district of Ontario there is a tendency to convert some of the cheese factories into cream-gathering creameries, and localities in which cheese factories were in operation ten years ago, but have been closed for lack of support, are now being occupied by creameries on this system. There seems to be very little tendency towards the establishment of creameries in that part of Ontario lying east of Toronto.

The present relatively high price of cheese is having a tendency to check the organization of the creamery industry in the Eastern Townships section of the province of Quebec, where, of recent years, there has been a decided preference for the manufacture of butter instead of cheese. This district has always had a reputation for making a high grade of butter, and the prices which they have been able to command for it have ruled higher than in any other part of Canada, under similar market conditions. The farmers of this district, therefore, have an advantage in making butter rather than cheese when the prices for the two articles are on an even basis.

MARITIME PROVINCES.

The dairy industry is not making much progress in the Maritime Provinces. The number of factories remains about the same in Prince Edward Island as for several years past. The production of cheese and butter during the season of 1906 showed some increase over the previous year and there is evidence that the herds are recovering from the effects of the unfavourable season in 1905. At present there seems to be some revival of interest in dairying in the island province.

The dairy industry in the province of Nova Scotia is rather declining instead of growing. There were 33 cheese and butter factories in 1900 and only 17 in 1906, the quantity of milk received in the latter year being about one-third of what it was in 1900.

Dairying shows more progress in New Brunswick. While the number of establishments for the manufacture of butter and cheese has not increased during the past 6 years, the value of the products has increased considerably. The dairy industry in New Brunswick is assisted and encouraged by expert advisers employed by the provincial Department of Agriculture.

WESTERN PROVINCES.

In the western provinces the best development is shown in Northern Alberta, which was the last of all the western provinces to engage in dairy work. There are now 41

creameries and 8 cheese factories in that province, and the number is increasing rapidly. The government of the province of Alberta is taking an active interest in promoting the dairy industry, and a large number of the creameries are under the full control of the Dairy Commissioner for the province.

In the province of Saskatchewan there are six creameries, but no cheese factories. The creamery industry does not show much progress in the province of Saskatchewan, but there is a large quantity of dairy butter manufactured, and the probabilities are that the near future will see a considerable stimulus given to the creamery industry. The provincial Department of Agriculture renders active assistance to the dairy industry through the newly appointed Superintendent of Dairying.

There is a revival of interest in the dairy industry of the province of Manitoba. The first organization of the dairy industry in Manitoba was scarcely suited to the conditions prevailing in that province, and the failure which resulted had the effect of discouraging the farmers to some extent, but the business is now being organized along lines which are more applicable to western conditions, and a considerable growth is the result. The Department of Agriculture of the province of Manitoba have a well organized dairy department in connection with the Agricultural College, and good work is being done in this connection.

In British Columbia there are 16 creameries in operation and the business is established on a sound, healthy basis.

The combined output of the creameries and cheese factories in the western provinces, including Manitoba, Saskatchewan, Alberta and British Columbia, is not sufficient to meet the demands of the local markets, including a comparatively small quantity shipped to the Yukon and the Orient. The result is that the stocks in eastern Canada have been drawn upon to supply the demands of the trade in the west. With the present development of the country, it is not likely that the production of butter and cheese in these provinces will be equal to the local demands for some time to come.

OUTLOOK FOR PRODUCTION.

There are no indications that the total amount of cheese which will be available for export from Canada will show any material permanent increase in the near future. There may be a temporary increase as a result of the relatively high prices, but the increase in home consumption and the tendency to make butter when conditions are favourable will be sufficient to offset any increase in the production for the next few years. If the export prices for butter and cheese again assume a more even basis, there should be a considerable increase in the quantity of butter for export, which may result in decreasing the cheese output slightly. In Ontario and Quebec, which are the two provinces that really govern the supply of butter and cheese, the number of cows kept is not being increased very largely, but the movement now on foot for the improvement of dairy herds is bound to have an important influence in increasing the production of milk in the future.

CONDENSED MILK.

The manufacture of condensed milk is reported to be prosperous in Canada and shows signs of growth and development. There are only four or five establishments in operation, but several others are projected.

EXPORTS OF CANADIAN CHEESE AND BUTTER.

TABLE I.—TOTAL EXPORTS, YEARS ENDING JUNE 30.

Butter.			Cheese.		
Year.	Quantity.	Value.	Year.	Quantity.	Value.
	Lbs.	$		Lbs.	$
1880	18,535,362	3,058,069	1880	40,368,678	3,893,366
1890	1,951,585	340,131	1890	94,260,187	9,372,212
1891	3,768,101	602,175	1891	106,202,140	9,508,800
1892	5,736,696.	1,056,058	1892	118,270,052	11,652,412
1893	7,036,013	1,296,814	1893	133,946,365	13,407,470
1894	5,534,621	1,095,588	1894	154,977,480	15,488,191
1895	3,650,258	697,476	1895	146,004,650	14,253,002
1896	5,889,241	1,052,089	1896	164,689,123	13,956,571
1897	11,453,351	2,089,173	1897	164,220,699	14,676,239
1898	11,253,787	2,046,686	1898	196,703,323	17,572,763
1899	20,139,195	3,700,873	1899	189,827,839	16,776,765
1900	25,259,737	5,122,156	1900	185,984,430	19,856,324
1901	16,335,528	3,295,663	1901	195,926,397	20,696,951
1902	27,855,978	5,660,541	1902	200,946,401	19,686,281
1903	34,128,944	6,954,618	1903	229,099,925	24,712,943
1904	24,568,001	4,724,155	1904	233,980,716	24,184,566
1905	31,764,303	5,930,379	1905	215,733,259	20,300,500
1906	34,031,525	7,075,539	1906	215,834,543	24,433,169

Table I gives the total quantity and values of cheese and butter exported from Canada for the years 1890 to 1906, including the year 1880. A glance at this table reveals the fact that the large annual increase in the quantity of butter and cheese exported from Canada during the decade preceding 1900 has not been maintained of late years. There are two reasons for the apparent check in the development of the dairy industry in Canada. In the first place the country suitable for dairying in the eastern provinces began to be pretty fully occupied about the year 1900, and since that date the increase of the home consumption has considerably reduced the quantity which would otherwise have been available for export.

Tables II and III give a detailed statement of the export of cheese and butter by countries for the years 1900 to 1906, inclusive. Great Britain continues to be the only market of real consequence for Canadian dairy products. The total value of cheese shipped to countries other than Great Britain in 1900 was $43,654, which amount was increased to $132,261 in 1906. The value of butter thus exported for the same years was $175,156 and $273,536, respectively. Although the percentage increase has been considerable, the actual amount is not large enough to seriously affect the situation.

TABLE II.—STATEMENT OF EXPORTS OF CHEESE FROM CANADA FOR THE YEARS ENDING JUNE 30, 1900 TO 1906 INCLUSIVE.

To	1900.	1901.	1902.	1903.	1904.	1905.	1906.
	$	$	$	$	$	$	$
Great Britain	19,812,670	20,609,361	19,620,239	24,620,004	24,099,004	20,174,211	24,300,908
Australia	2,622	10,418	6,862	6,913	6,247	5,411	5,350
British Africa	347	36	868	2,514	7,559	10,612	16,623
B. W. Indies	13,393	16,340	18,542	44,674	34,253	36,176	25,509
B. E. Indies			60	40	315	62	20
British Guiana	1,012	1,194	1,833	2,165	1,193	2,571	3,860
Other British Possessions			746	553	216		
Hong Kong	10			161	1,253	1,079	1,029
New Zealand			216	983	1,039	1,642	1,795
Newfoundland	16,651	16,603	20,100	21,334	21,754	35,171	30,992
Belgium	15	124			10	22	287
Argentina				14			
Cuba	392	211	350	331	211	102	811
China	987	456	1,409	1,734	1,899	2,013	2,155
Danish West Indies	2,515		332	2,037	1,936	2,046	2,056
France		465			44	700	7,203
Japan	551	935	821	1,076	1,609	759	775
Philippine Islands	170	1,112		289	100		
St. Pierre	153	226	158	120	356	341	875
United States	4,836	37,601	12,038	7,779	5,386	14,182	16,082
Dutch West Indies		1,754	538				
Norway & Sweden		103				104	994
Germany		12	1,179	170		364	
Bermuda						12,505	14,033
Dutch Guiana				15	23	18	13
Egypt				30			
Mexico					159	329	1,594
French West Indies				7			
Central America						80	
Holland							97
U. S. of Colombia							68
Totals	19,856,324	20,696,951	19,686,291	24,712,943	24,184,566	20,300,500	24,433,169

TABLE III.—DETAILED STATEMENT OF EXPORTS OF BUTTER FROM CANADA FOR THE YEARS ENDING JUNE 30, 1900 TO 1906 INCLUSIVE.

To	1900.	1901.	1902.	1903.	1904.	1905.	1906.
	$	$	$	$	$	$	$
Great Britain	4,947,000	3,142,353	5,459,300	6,554,014	4,400,774	5,568,999	6,802,003
British West Indies	53,657	59,396	71,816	112,968	127,790	80,325	87,085
British Guiana	3,767	3,322	6,796	7,595	6,412	8,929	11,654
Other British Possessions			284	72			
Hong Kong	20						
Newfoundland	66,069	44,986	47,066	69,017	88,422	82,387	48,283
China	1,665	1,199	78	141	1,763	562	761
Cuba	1,62	270	243	202	796	658	285
Danish West Indies	10,07		1,581	6,077	5,858	4,473	4,560
French " "	8			1,020			
Germany	7,21		101	13	25,644		
Hawaii	1			115			
Hayti				38			
Japan	2,4	717	1,013	1,816	6,027	6,496	9,373
St. Pierre	23,4	30,569	27,102	28,655	26,598	21 827	17,668
United States	5,04	5,839	41,149	10,225	6,497	70 580	33,965
British Africa		300	12	133.958	16,417	4,914	2,056
Mexico				4,685			1,268
Brazil		345	1,608	9,084			
Dutch West Indies		5,971	2,040				
U. S. Colombia		396	92	1,175	2,272	200	1,747
Australia			260	6,187			
Bermuda						50,482	47,045
France					14	14,440	4,155
San Domingo				1,351			
Holland					8,175	13,680	
Venezuela				6,240			
Belgium					10	116	
Central America					686	1,062	3,431
Corea						15	
Dutch Guiana						186	30
Turkey						50	
Porto Rico							170
Totals	5,122,15	3,295,663	5,660,541	6,954,618	4,724,155	5,939,379	7,075,539

THE CHEESE INDUSTRY.

FIRST CHEESE FACTORIES.

It is now 41 years since the first Canadian cheese were shipped to Great Britain, and a few facts concerning the genesis of the present large and important trade should be interesting to all dairymen.

There are several names that will always occupy a prominent place in the annals of the early development of the cheese factory system of Canada. In Western Ontario Mr. Harvey Farrington, the pioneer cheese factory promoter, whose first factory was started in Oxford county, Ontario, in 1864, who during his lifetime laboured unselfishly to promote the welfare of the industry which his enterprise had begun, and who was always ready with advice and helpful suggestion to others proposing to follow in his footsteps, deserves a niche in the dairymen's hall of fame.

The late Mr. Edwin Caswell, the original cheese buyer of Canada, who did much to make the town of Ingersoll headquarters of the trade for many years, is well remembered for his energetic, bustling manner, his genial disposition, and his uprightness in all his business dealings. Impulsive by nature, he frequently committed errors of judgment in his dealings in cheese, which caused him heavy losses, but no one ever knew him to try to get out of a bad bargain by discovering some minor defect in the quality of the cheese he had agreed to purchase.

These two pioneers have crossed the divide and we know them no more, but happily we still have with us an associate of theirs and another pioneer in the cheese industry,

in the person of the Hon. Thomas Ballantyne, of Stratford, Ont., an early cheese manufacturer and ever ready advocate of the industry, whose unsparing criticism and stern denunciation of wrong methods left an impress on the district through which his influence extended, which is seen to-day in the character and standing of factories which he came in contact with.

The start made in 1864 in Western Ontario was soon followed in the more eastern sections of the province. One of the best known names among the pioneers of Central Ontario was that of Mr. Ketchum Graham, of Belleville. The writer did not have the privilege of knowing Mr. Graham, but has often heard men who were his associates speak of him and his work in the highest terms. His factory 'Front of Sidney' was started in 1865.

The first factory in the province of Quebec was started by Mr. James Burnett, at Dunham, in Missisquoi county, about the same time, but the industry did not make much progress in that province until after 1880.

FIRST CHEESE EXPORTED.

To Adam Brown, Esq., the present postmaster of the city of Hamilton, must be given the credit for having arranged for the shipment of the first lot of Canadian cheese to Great Britain, and his name certainly deserves to be put on record on that account. The story is told in Mr. Brown's own words, written by request for this report.

'J. A. RUDDICK, Esq., HAMILTON, ONT., December 4, 1906.
'Dairy Commissioner,
'Department of Agriculture,
'Ottawa.

'DEAR SIR,—It was, I think, in 1866 that I had arranged for an extended trip to England with my family, and before going I went to Ingersoll to make contracts for a supply of cheese for my firm, Brown, Gillespie & Co., wholesale grocers, Hamilton, to supply our customers for the fall trade.

'In company with the late E. Caswell, of Ingersoll, I spent two days or more visiting the several cheese factories and smaller makers in the county of Oxford. I well remember on our driving back to Ingersoll, after having completed my purchases, saying to Mr. Caswell, "I would like nothing better to occupy a portion of my time in England than introducing Canadian cheese," but I remarked it could not be done unless we had boxes to ship them in. Of course boxes would have been got from the United States, but I wanted Canadian boxes.

'When we reached Ingersoll we happened to see the late Adam Oliver, and on telling him what we had been talking about, he promptly said, "Don't let that stop you, I will see that boxes are ready for any orders you may send over, and I will start a factory and make them." Well, soon after that, I went to England and, fortified with an open letter of introduction from my firm's bankers in London, I visited several of the leading cities in England, and, soliciting business from the largest provision dealers in those places, I sought to impress them with the excellence of Canadian cheese, and worked hard to get them to order fifty boxes, or if they would not buy at market price, to accept a consignment of fifty boxes or whatever they might name, and sell them on arrival on their merit, and I stated that my firm would not draw against shipment and would be satisfied with proceeds, so sure was I of results. I sold some and consigned some.

'I had the same story from all of them at first: "We deal in American cheese; we never heard of Canadian cheese." Of course, my answer was easy, namely, because it had not been brought to their notice. To make a long story short, I succeeded by personal visit in placing by either sale or consignment, our cheese in London, Liverpool, Wolverhampton, Shrewsbury, Bristol, and in the case of some other cities I corresponded, with good results. I declared that they would find the Canadian cheese they would receive equal to, if not better than what they styled "American." I let them know what kind of cheese Canada produces, and also opened the eyes of not a

few when I told them that our country was ever so much larger than the United States and that Canada embraced more than half the area of North America. The cheese, when received, gave satisfaction in every case.

'I remember that the lot for Shrewsbury arrived in time to be put on sale during one of the great Shropshire cheese fairs, which I attended, and I was proud of both quality and condition. Many orders were repeated and firms that had received on consignment, afterwards sent regular orders; such of these orders as my firm received were executed through E. Caswell, of Ingersoll, the reason for which was he was a grocer and bought his goods from my firm, and I felt it would magnify his trade by having him fill the orders. It was not very long after this that resident agents of British firms were either sent out or appointed in Canada.

'The story I have related deals with the first Canadian cheese, as far as I know, that was shipped from Canada with "Canada" on the boxes; a few cheese may have found their way across before for aught I know, or in some way have been shipped in "United States" boxes, but this I know that the largest cheese dealers in the Kingdom on whom I called, never heard of Canadian cheese until I introduced it.

'There was a convention of cheese men held in Ottawa, between 1886 and 1891, while I was attending to my parliamentary duties. One day during the sitting of that convention I received a message in the House of Commons, saying that I was wanted in the Railway Committee room, where the convention was being held. I was most courteously introduced by the chairman, and invited to tell the story of the first shipment of cheese from Canada to Great Britain, with the Canadian brand on the boxes. I told the story there, as I tell it to you now. I knew at the first that our cheesemakers had no reason to fear placing their cheese alongside of that from the United States, and I felt sure the day would come when ours would stand higher than theirs, and it was not long before such was the case.

'It is a marvellous record that the exports of Canadian cheese for 1905-6 have reached the enormous value of over twenty-four million and a quarter of dollars, and the trade still growing.

'Yours respectfully,

'ADAM BROWN.'

THE OUTLOOK FOR CHEESE.

The Canadian cheese trade, being a practical monopoly, does not present as many sides or phases for discussion as the butter trade does. The present high prices for cheese, both actual and relative, naturally tend to encourage the making of cheese at the expense of butter, and many of the combined factories are preparing to make cheese for the season of 1907. It is not likely, however, that even should the market continue to favour the production of cheese, there will be much permanent increase in the amount of cheese available for export, because of the constantly increasing home demand.

Advices from New Zealand show that a considerable quantity of milk is being diverted from butter to cheese in that country. The probable increase from that quarter will not be large enough, however, to materially affect the situation, especially as the consumption of cheese at present seems to be closer to production than it has been for some years. On the whole, the outlook for the cheese trade seems bright and full of promise. It must not be forgotten, however, that with higher prices the question of quality becomes more important than ever, and a high standard must be obtained in order to keep up the consumption.

THE HOME TRADE IN CHEESE.

Although the annual consumption of cheese in Canada is increasing and the quantity consumed is now considerable, it is small compared with what it would be if there was any real attempt made to cater to the tastes of the people and to supply them with the kind of cheese which they like. The grocers who handle cheese, as a

rule, do not pay very much attention to quality and are guided in their purchases almost entirely by the matter of price. Generally speaking, they will buy cheese at a quarter of a cent below the market price which the regular cheese buyer will not touch except at a big reduction. As a result, they are offered all the 'culls,' and they usually get them.

Another mistake grocers make is to wait until fall to lay in their stock, buying then the green, uncured cheese, which should not be eaten in less than five or six months.

The proper time to secure cheese for winter consumption is during the month of June, taking the cheese from the factory when they are 10 days or two weeks old and keeping them afterwards in a cool temperature to develop proper flavour. If the cheese are sound in flavour and are purchased at a factory where there is a cool curing room (not over 60 degrees) they will turn out best after 4 or 5 months if held at 55 or 60 degrees. If the cheese have been exposed to a temperature of over 60 in the curing room, it will be safer to hold them at a lower temperature. The cool cured cheese develop a mild but distinctly 'cheesy' flavour which is universally liked. The home or local trade is encouraged also by making small sizes and shapes. The small cheese weighing 10 to 15 pounds are very popular. Such cheese reach the consumer without cutting and thus a saving of considerable waste is effected. It costs more to make such cheese, but an extra price is readily paid.

These small cheese should be made with plenty of moisture, as the small shape permits of more rapid drying out.

If June cheese are selected for winter use, it is advisable to have them dipped in melted paraffin wax when they are about 10 days old, to prevent them from losing in weight and to retain the meatiness of texture which is so desirable. The small 10-pound cheese may be waxed at a week old, as they dry out more quickly than the large ones. For information on the waxing of cheese see Report for 1906.

There is an opportunity for factories with cool curing rooms to do a splendid business in catering to this local trade. Here and there one finds a grocer who has studied this part of his business with the result that his trade has grown enormously in this particular line. These men go direct to a reliable factory and contract for their best cheese, even if they pay a slight premium.

I would say to grocers, buy your cheese, if you can, from a factory with a cool curing room, and take the June cheese for winter use and September made for the following summer.

TABLE IV.—QUANTITIES OF CHEESE IMPORTED INTO THE UNITED KINGDOM IN THE YEARS 1900 TO 1906 INCLUSIVE.

(Years ending Dec. 31.)

From	1900	1901	1902	1903	1904	1905	1906
	Cwts.	Cwts	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.
Holland	327,382	315,925	284,020	302,503	233,601	214,033	229,341
Belgium	62,059	74,071	70,372	87,998	63,694	64,389	76,021
France	35,110	26,833	36,801	36,004	41,268	48,884	43,244
Italy	6,477	744	732	726	642	727	544
United States	*680,583	540,102	390,479	360,916	224,830	175,256	253,445
Other foreign countries	1,225	2,144	2,323	1,720	1,014	2,000	4,146
Australia	*3,386	149					
New Zealand	*77,617	79,094	51,875	56,339	84,947	78,626	126,216
Canada	*1,511,872	1,547,739	1,709,565	1,848,142	1,909,556	1,858,767	1,925,835
Other British possessions	167	68	45	10	745		2
Total	2,705,878	2,586,837	2,546,212	2,694,358	2,554,297	2,442,682	2,638,794

* Cheddar variety.

IMPORTS OF CHEESE INTO THE UNITED KINGDOM.

Table IV gives the total importation of cheese into the United Kingdom for the years 1900 to 1906, inclusive. During that period there has not been any very great change in the total annual importation. As a matter of fact, the figures show the largest importation for the period under review in the year 1900. The most notable changes in the imports during this period are the decrease in shipments from the United States and the increase in the quantity shipped from Canada, 1906 showing the largest quantity from Canada during the seven years mentioned. The next year or two will probably see some increase in the quantity of cheese from New Zealand, but the amount in any case will not be large enough to seriously affect the market, and will probably be offset fully by further decrease in the shipments from the United States.

SHIPPING GREEN CHEESE.

During the past two or three years the practice of shipping cheese from the factories in green condition, say two or three days old, has become far too common.

The practice probably owes its origin, in some measure, to the movement by which it was proposed to take the cheese from the factories as soon as they were made, and store them at a suitable temperature, with a view of having them cool cured. This is a very different matter from shipping the cheese to consumers in a green condition, and as compared with leaving cheese for ten days or two weeks in an ordinary curing-room during hot weather, is probably the lesser of two evils, and permissible only as a temporary arrangement or makeshift.

When green cheese are put into boxes and then held in cool storage, the actual process of curing or ripening is not interfered with, but there is danger of the rinds becoming soft and other 'skin troubles' arising. Moreover, the practice would have a demoralizing effect on the makers, who would lose the advantage of studying the results of their work by examination of the cheese after it is, at least partially, ripened.

The same objections can be urged against the shipping of green cheese for immediate export, with this further and more serious objection that it is sure to have a prejudicial effect on the market for Canadian cheese in Great Britain. The British consumer does not want green cheese, and considers it a serious defect in quality when such cheese is offered to him. In proof of this statement the following extracts from letters received by the writer from leading importers of cheese are submitted:

(From Eben Thomas & Co., Liverpool, dated December 19, 1906.)

'If this practice is continued, buyers on this side must take this loss into account in the price, but the more important feature of the matter is the deterioration in the quality brought about by putting the cheese on the market too green. It will have a detrimental effect upon the reputation of Canadian cheese, and prejudice the quality in the mind of the consumers.'

(From W. A. McKnight, Liverpool, dated December 19, 1906.)

'It seems to me that the factorymen are most to blame for marketing their cheese too soon, and as it is upon them that the loss must ultimately fall, I hope you will urge the importance of the matter upon them when you meet them.'

(From the Colonial Produce Co., Bristol, dated December 14, 1906.)

'You are, of course, aware that British cheese of the best qualities are this year fetching much higher relative prices than Canadian. This may be partly explained by other causes, such as the greater spending power of the purchaser, but may not some of it also be accounted for by the inferior quality of the Canadian cheese received in this country this year?'

FIG I.—An Ontario Cheese Factory.

FIG II.—An up-to-date Combined Cheese Factory and Creamery in Quebec.

Two Ontario Creameries.

A Maritime Province Creamery.

A British Columbia Creamery.

(From Rowson, Hodgson & Co., Ltd., London, dated December 14th, 1906.)

'When you were over in England you asked us to give you any details in connection with the business of the cheese trade which might be of interest to those immediately connected with the industry.

'We have noticed very particularly that cheese have been drawn from the factories very young, and this has produced an insipid flavour. We cannot say that it is what is understood as strong flavour, in fact, it is difficult to define, but it is certainly not conducive to consumption. Of course, we have not the actual experience of putting them on the counter, but it is sufficient for us to know that buyers are dissatisfied, and consequently take a great amount of trouble in selecting something which will have a "cheesy" flavour.'

(From Pullin, Thomas & Slade, Bristol, dated December 13, 1906.)

'We have serious complaint to make this season on account of the excessive short weight on cheese, brought about, we believe, entirely through same being shipped in far too green a state. It has meant a considerable loss to us financially and otherwise, as a large quantity of the goods have developed a bad flavour, undoubtedly on account of the heat having a much worse effect on immature cheese than it would have if they were properly cured.'

(From George Wall & Co., Liverpool, dated December 12, 1906.)

'We have for some time intended writing you on the quality of this season's make of Canadian cheese. Of course we know that your chief interest and ambition are centered in the progress and good name of Canadian dairy produce, and we consequently feel sure that you will receive any remarks we may make in the right light. We simply make them in the best interests of the trade, and not from any personal motives or from any wish to complain.

'As a matter of fact, we think there are few who have so admired and complimented in past years the progress of Canadian dairy produce, and we have often held up the uniformity of the good quality of Canadian cheese as an example of perfect system and organization. Unfortunately, we have this season had many more complaints than usual, and we think you will consider it in the true interests of the Canadian cheese trade that we draw your attention to this. In our opinion the cause of all the trouble this season is the fact that many of the dairymen have allowed their cheese to leave the factory too green. They may of course think that it is policy to avail themselves of excited markets and good offers, but in our opinion, by doing so they are killing the goose which lays the golden egg.

'If all the factories were to make an agreement that no cheese should be sent out before they were a certain age, this would be greatly to the benefit of the interests of the future reputation of Canadian cheese, and it certainly would not prevent buyers when they got excited from making high offers, nor would it prevent the factorymen from accepting such. In delivering cheese too green, the factorymen simply do it to oblige the dealers, and get no thanks for it. They would receive the same price if they simply stated that the cheese could not be shipped according to the rules of the trade until they were so many days older, but instead of doing this we feel confident that this year they must have allowed the cheese to leave the factory in many cases almost as soon as they were made, and as stated above, this has simply obliged the dealer, and done harm in reputation of Canadian cheese generally on this side.'

(From George Little, Limited, Manchester, dated December 12, 1906.)

'The condition of the cheese when reaching this market is almost a scandal and points to the fact that cheese are not allowed to mature in the factory, but must be sent forward immediately, on the off-chance of the cheese ripening and maturing in

transit. We have during the last few days landed some 1,000 to 1,500 boxes of cheese and there is hardly one that we can send out for immediate consumption. Buyers turn up their noses at such stuff and tell us that they will look at them again in a couple of months' time. The system of buying c.i.f. places an importer at a serious discount, as he literally buys a pig in a poke, and has to trust to the exporter to give him decent value. We have made up our minds to do less importing solely on these grounds, and we should be glad if you would place the saddle on the right horse and the blame on the right shoulders, and if at any conference of factorymen or officials in cheese centres, please urge the importance of amending this matter at once, otherwise the quality of Canadian cheese will decline more and more (as it has already done) in the estimation of the British public. Several years of prosperity and increased production may have made the dairy element indolent and indifferent about how their products turn out in this country, but it is a wrong policy to adopt and is inimical to the prosperity of your great country.'

(From Pearson & Rutter, Ltd., Manchester, dated December 12, 1906.)

'We have seen a good deal of correspondence recently in reference to Canadian cheese being shipped in too green a state.

'We are sure that this matter has only to be properly understood by the exporters and factorymen of Canada to receive their attention, as if this state of things continue the produce of Canada will suffer in reputation.

'No temporary and trifling gain of this sort will compensate for the loss of reputation, and it must be borne in mind that in the matter of cheese as well as butter, Canada will have to face a more severe competition than she has hitherto experienced.

'We shall be obliged if you will bring this matter forward whenever you have the opportunity to do so, and you are quite at liberty to use our name in connection with this matter.'

(From Wall & Co., Manchester, Ltd., dated December 10, 1906.)

'We would like to draw your attention to a very serious matter in connection with the shipping of Canadian cheese. We don't know whether it will interest you so much, but it certainly does interest us on this side, and it will also come to interest the factorymen as well. We refer to the practice which has been so prevalent this year of shipping green cheese. We have had cheese sent here which should have been on the factory shelves, and the result is, the article is not fit to show to customers, and if we do show it they condemn it.

'We had a parcel refused the other day for no other reason than this, and we had to find earlier made goods for our customer. This was not a small parcel either, and the buyer did not hesitate to tell us that it was the worst Canadian cheese we had ever tendered them. The fault was they were too green.'

The foregoing complaints from the largest handlers of Canadian cheese in Great Britain are surely serious enough to make every interested dairyman consider the question very carefully.

No opportunity has been missed to impress upon all dairymen the importance of this question and the desirability of taking steps to put a stop to a practice fraught with so much danger to the cheese industry. Unfortunately, the attitude of many people seems to be solely that of trying to put the blame on some one else. The Montreal Produce Merchants' Association (the exporters' association), in a circular dated February 23, 1907, addressed 'The Factorymen and the Creamerymen,' refer to the question in terms that would seem to imply that the factory owners are to blame. On the other hand, when the question is raised at a dairy meeting, many of the factory managers or salesmen are inclined to resent having any blame attached to them, and want to put the whole responsibility on the buyer. No doubt both are to blame, but

it is of much more importance to devise or suggest a remedy than it is to discuss the somewhat abstract question of who is most to blame, because if we should succeed in settling that point, we would be exactly where we are now in regard to the main issue.

The writer has endeavoured to interest the real owners of the cheese—the men who provide the milk—because this question, as well as many others, will never be definitely settled until they become fully impressed with the real interest which they have in it.

The following letter was sent to all cheese boards, and to the press generally, and received wide publication:—

'DEAR SIR,—I am informed by some of the dairy instructors in Ontario, that many of the cheese factories are shipping their cheese in a very green condition. In fact, one instructor writes that he has seen Monday's cheese boxed and shipped on Tuesday. It is difficult to understand how intelligent men can be induced to act so foolishly in the face of the positive warnings which they have received from time to time during the past year, as to the injurious effect of such a practice on the cheese trade of Canada. If we continue to ship green cheese to Great Britain at a time of the year when they are most likely to go into direct consumption, there can only be one result, and that will be to check the consumption of cheese enormously, with a consequent decrease in the demand, which is bound to have the effect of reducing the price before the season is over. It would seem to require scarcely a second thought to convince any person that it is a most suicidal policy to allow the cheese to be shipped when they are not in a condition fit for food and when their presence on the market will have the effect of stopping the consumption of cheese and encouraging the consumers to look for some other article of food.

'It is useless to throw all the blame on the buyers, and to let it go at that. The buyers know the danger of this sort of thing well enough, and the fact that they are offering to buy the cheese is proof that they will not act in the interest of the producer when it serves their purpose to do differently. The factory manager or salesman cannot escape his responsibility for the protection of his own business, or the business of his patrons. It is quite evident that the only way to deal with this question is for the salesman to refuse to sell the cheese until they are fit for market. I appreciate the difficulty of individual action in a matter of this kind, owing to the strenuous competition among factories, but there is nothing to prevent the salesmen on the different cheese boards from agreeing as a body not to allow cheese to leave their factories until they have attained a reasonable age, say at least ten days or two weeks. Some of the cheese boards have already done so, and I venture to say that the factories represented will reap a handsome reward before the season is over, because the district which resolutely refuses to allow the cheese to go forward until they are in a proper condition, will add very materially to its reputation on that account. I know of no surer way of forcing the market down than by selling green cheese. Those who are following the sales on the cheese boards closely, will have noticed that certain districts are receiving a handsome premium over others, simply because they have sufficient foresight and good business judgment to recognize that it pays them to protect the reputation of their cheese in every possible way. When the patrons of cheese factories come to fully realize how vitally they are interested in the actual condition of the cheese as it reaches the consumers in Great Britain, they will make it warm for any factory manager or salesman who allows absolutely green cheese to be shipped from the factory.

'What is the use of the government's spending money for the purpose of instruction if cheese are to be shipped before any one can determine anything about their quality? The instructors might just as well remain at home, under such circumstances. Any of the improvements which have been made in recent years, and which have done so much to help the cheese industry, will be almost wholly nullified if this sort of thing goes on.

'With the knowledge that I have as to the effect of this practice on the British market, I conceive it to be my duty to protest as vigorously as possible against a continuance of this practice and point out the inevitable results if it is continued.

'J. A. RUDDICK,
'*Dairy and Cold Storage Commissioner.*

'OTTAWA, May 7, 1907.'

This appeal was made with a view of interesting the patrons of factories as well as the salesmen and factory managers. To the average cheese factory patron what looks like a temporary gain is apt to prevent him from seeing the ultimate results of any particular course of action. He is apt to insist that the salesman shall adopt the policy which will bring the highest immediate return, regardless of consequences in the future, and this is one of the difficulties which must be taken into account in dealing with this question.

The buyers could very easily put a stop to the shipping of green cheese by refusing to accept it, and being relatively few in number, as compared with the army of salesmen, it would be much easier for them to agree on concerted action. They know very well the danger of the practice, and yet they continue to encourage it. But if the buyers will not protect this important industry, surely it devolves upon those to whom it belongs, and who will suffer if it is injured, to make some effort to have the abuse corrected.

The following letter appeared in the *Farmer's Advocate,* over the writer's name, in reply to some comment by the editor on the letter already quoted:—

'Referring again to the question of shipping green cheese, and to your editorial thereon in the issue of May 9, permit me to add one more word on the subject.

'I fully agree with what you say about the blame which rests on the buyer, and the temptation which the salesman has to face when he is urged to let the cheese go as soon as they are out of the press. I have no excuses to offer for the buyer, but I have been more desirous of suggesting a remedy for the evil than to discuss the somewhat abstract question of who is most to blame, because if we do succeed in reaching a decision on that point we shall still be where we are now in regard to the main issue.

'I notice that it is very generally assumed that there is a temporary gain to the factory which sells "green" cheese, and in your editorial you state that the buyer takes them because he is afraid of the price going down. Now, I take quite the opposite view of the case. I believe the buyer takes green cheese because he believes the market has an upward tendency, so that he will stand to profit by the increase. It does not follow that his judgment is always correct, but during the past year it more often turned out that way than otherwise.

'No doubt a period of depression, with a falling off in the demand for cheese, would tend to cure the evil, as has been suggested. I am bound to say, also, that to continue the practice of shipping green cheese is one of the surest ways of bringing on such a depression, by lessening the consumption and causing stocks to accumulate. That will be a very expensive cure, however, and will cost the patrons of cheese factories many millions of dollars through lower prices. By holding back the cheese we increase the scarcity, stiffen the prices, and at the same time encourage the consumption of cheese by giving it time to reach a better condition, and thus help to continue the active demand.

'Canadian dairymen have been very fond of congratulating themselves on their wisdom in refusing to make skim-milk cheese, or filled cheese, even at a temporary gain, and have professed to have been content to lose that gain for the sake of a good reputation and the future welfare of the trade. They now have another opportunity for a display of foresight and sound business judgment.

'I am not thinking of the fodder cheese, which has always been moved out early, for the question is much wider than that. Nor do I fail to take into account the injury which results when cheese are held for a lengthy period in a hot curing-room.

Shipping the cheese green, however, is only getting "out of the frying pan into the fire," and is a mighty poor way out of the difficulty, considering how easy it is to provide a cool curing room.

'Thanking you for your kind words of introduction to my letter on this subject, which appeared in the issue of May 16, I am,

'J. A. RUDDICK,
'*Dairy and Cold Storage Commissioner.*'

COOL-CURED CHEESE.

There will be a big increase in the number of cheese factories fitted with cool curing rooms in 1907. In Ontario the districts around Peterboro, Belleville and Picton are making the most progress in this matter. The reputation and character of the cheese from these sections are already showing the beneficial results which have followed the improvements. A number of curing rooms have also been improved and provided with ice chambers in Western Ontario. In Quebec the Lake St. John section is leading other parts of the province, with 22 factories properly equipped for cool curing. A curing room without an ice chamber and a circulation of air through the curing room is not considered a cool curing room.

THE GOVERNMENT COOL CHEESE CURING ROOMS.

The movement for the improvement of cheese curing is now so well under way that it is not considered necessary to operate the government illustration curing-rooms any longer, and the four establishments which have been conducted by this Branch will be disposed of. During the 5 years of operation 104 different cheese factories have sent cheese to these four curing rooms, and the total number of cheese supplied to each curing room is shown in the following table:—

—	1902.	1903.	1904.	1905.	1906.	Totals.
Brockville	6,644	9,856	9,740	5,999	12,430	44,669
Woodstock	11,657	14,614	12,526	11,483	8,923	59,203
Cowansville	6,266	14,672	12,014	8,650	4,325	45,927
St. Hyacinthe	1,964	9,695	11,816	5,867	10,946	40,288
	26,531	48,837	46,096	31,999	36,624	190,087

COOL-CURED CHEESE APPRECIATED.

Many expressions of appreciation of the superior quality of cool-cured cheese are received at this office, of which the following are examples:—

'13 GREENWOOD ST.,
'MANCHESTER, December 18, 1906.

'Mr. J. A. RUDDICK,
'Department of Agriculture.

'DEAR SIR,—We went through a line of white and coloured cheese to-day, September made, all western goods, looking for a few hundred boxes for a very particular buyer. We got him fixed up for white, but he was not altogether satisfied with the quality, and kept repeating that they were not up to our usual standard. On going to the coloured lots we picked 400 or 500 boxes without turning down a factory, and our buyer expressed the pleasure that it was to have cheese of this kind offered; every lot was as near perfection as you can get cheese.

'On going into the matter to try and find the difference we at once saw that the coloured had been cured in a Government cool curing room at Brockville, while the white had been cured in the ordinary way.

'If any of your farmers had been in our warehouse to-day they would have had an object lesson in the value and importance of having their cheese all cured in the same way. In our minds it makes a very much bigger difference than people imagine, and if this plan was adopted generally Canadian cheese would hold a very much higher place in the opinion of the trade than it does to-day.

'Yours faithfully,

'WALL & Co., (MANCHESTER)
'Limited.'

Extract from a letter of a leading provision house in Bristol, Eng., (name not given) to Messrs. Olive, Dorion & Stroud, Montreal, with reference to a shipment of cheese from the St. Hyacinthe cool curing room:—

'*Re* Invoice No. 22, C. Cheese marked B. 6/11.

'We must say that we are very pleased with the out-turn of these cheese. They have come to hand in much better condition than the other lots in this steamer, and those in the previous steamer.

'We think we would do with a good quantity of this character of cheese, so if we should use the word 'Hyacinthe' when cabling, you will understand that we should like you to give a preference to cheese such as these; and if you use this word in cabling us, we shall understand that you will be including some of them in whatever cheese you may be offering in the message.'

The erection, equipment and maintenance of these cool curing rooms have cost quite a large sum of money, but no money has ever been spent in the interest of dairying in this country which has shown more tangible results, or from which the industry will derive greater benefit in proportion to the amount spent.

Cool-cured cheese are now being recognized as a special class, and are thus sold on some of the cheese boards at a premium over the price of ordinary-cured cheese.

Not the least important among the advantages derived from the government cool-curing rooms, were the facilities which they afforded for studying the problems involved in the improvement and management of cheese factory curing-rooms, to meet the requirements of cool-curing generally. As a result, we have been able to present plans and specifications to the cheese factory owners with a degree of confidence in their suitability which could not have been acquired in years of ordinary factory experience, nor without costly mistakes which would have been a serious clog on the progress of the movement. As it is we have been enabled to make recommendations involving a minimum of expense with a high degree of efficiency, and the plans and specifications supplied by this branch are being generally adopted.

For plans and specifications for the improvement of curing rooms and the erection of ice chambers see report of the Dairy Commissioner for 1906. Blue print copies on a larger scale will be sent free to any person who wishes to erect a modern cheese factory.

THE BUTTER INDUSTRY.

With the price of butter and cheese on a fairly even basis, the patrons of factories in many districts show a decided preference for manufacturing butter instead of cheese. This is particularly true of the province of Quebec, where a large percentage of the factories are equipped for the manufacture of both butter and cheese. This attitude on the part of the farmers will make for a considerable increase in the output of creamery butter when conditions are more favourable than they are at present.

There is a revival of dairying in some parts of western Ontario along the line of buttermaking. Cheese factories were first started in these districts, but by degrees

the patronage fell off to such an extent that many of them were closed, and the farmers turned their attention more to the raising of beef. With the advent of the cream gathering creamery, by means of which a central establishment can be extended over a large area, and thus make co-operative or factory dairying possible in districts where the production of milk is not large enough to support a cheese factory, these same districts have taken up buttermaking as a sort of side line. The quantity of butter made in this way is considerable and is increasing yearly. With the introduction of better methods in the handling and delivery of the cream, there will not be as much criticism as there has been concerning the quality of the butter made at these creameries.

The creamery industry in the western provinces, particularly in Alberta, is making very satisfactory progress, and, being the main dependence of the farmers in Northern Alberta, is likely to be developed extensively and along good lines. Northern Alberta promises to become one of the most important creamery districts in Canada.

With the tremendous increase in the importation of butter into Great Britain from various countries supplying that market, the only hope for our export butter trade is to supplant a portion of the butter coming from other countries. This can only be done by manufacturing a superior article and placing it on the market in the best possible condition. The competition for the butter trade with Great Britain is very much keener than it is or ever was for the cheese trade, so that in order to be successful, more progressive methods must be employed than those which were sufficient to secure the cheese trade for Canada. There is some disadvantage in the fact that the total quantity of Canadian butter sent to Great Britain makes a comparatively small percentage of the whole importation, but it does not follow that because the quantity is small it is impossible to obtain high prices. If Canadian butter is made of such superior quality as to stand in a class by itself and above all others, there will be no difficulty in securing the top price for it. As proof of this statement we have only to cite the case of Normandy butter, which is not received in very large quantities but yet commands the highest price of any butter imported into Great Britain. It cannot be too often asserted that the thing of supreme importance in advancing the interests of our cheese and butter trade is to produce an article of superior quality.

DAIRY BUTTER.

The advantages of the creamery system are so obvious that it seems hardly necessary to say that that plan of buttermaking should be adopted wherever it is possible. It is not always possible, however, and for that reason dairy butter making must not be neglected.

There is great room for improvement in much of the dairy butter manufactured in Canada. The total quantity of dairy butter is very much larger than is generally supposed and, unfortunately for the creamery industry, much of this butter eventually finds its way to market packed in boxes, similar in style, shape and size to the boxes used for creamery butter, although the law prevents the branding of 'dairy' butter as 'creamery.' One of the worst features of the dairy butter trade is the way in which it is handled. Large quantities of butter are collected by country merchants who keep it for a considerable time, exposed to high temperature and other injurious conditions, so that the butter becomes stale and off flavour, no matter how well it is made. If the measures of preservation, such as cold storage and other protection from injurious influences, which are employed in the handling of creamery butter were applied to the dairy butter, it would mean thousands in the pockets of those who produce the butter.

MOULD ON BUTTER.

Reports of mould on butter are not as numerous as they have been, but we still hear of too many cases. One particularly bad case was brought to the attention of

this office a few months ago by a firm of importers in Glasgow, who returned a box of the butter in question. The mould had grown all through the butter, making it absolutely worthless. An inspection of the creamery where this butter was made, showed great lack of attention to sanitary details. The place was not kept clean, and there was every opportunity for infection with mould.

The origin of mould in butter has provided the theme for many discussions and theories. Mould does not grow spontaneously any more than the larger plants which cover the surface of the earth; the seeds must be sown in the first instance. The spores (seeds) of mould are very common in the air and are present almost everywhere, but they do not germinate or grow except under certain conditions. There are three essential conditions for the growth of mould: (1) a suitable medium which will provide food for the plant; (2) moisture to support the growth of mould; and (3) a suitable temperature. Green, unseasoned wood contains both moisture and food for the growth of mould; many cases of the growth of mould on butter can be traced to this source; therefore it is important that butter packages should be made of thoroughly seasoned timber. There is always moisture in connection with a package of butter and sufficient nitrogenous matter in this moisture to furnish food for the growth of the mould. In the matter of temperature, the range through which mould will grow is a very wide one, and while it grows faster at high temperatures, the growth is not completely checked by temperature even below the freezing point of water.

In many cases the packages and the parchment paper used for lining the boxes are infected with the spores of mould while lying around the creamery. A creamery which is kept thoroughly clean, where the walls are disinfected regularly to prevent the growth of mould, and which is properly ventilated so as to be as dry as possible, is not likely to encourage the growth of mould, and very few cases are reported from creameries which are properly kept in this respect. A special place should be provided for keeping the parchment paper. A box or cupboard, which can be disinfected with the fumes of formalin or by other means, is desirable for the storage of parchment paper. The boxes and the paper should both be kept in the driest, cleanest place around the creamery, and the presence of dust should always be avoided. Buttermakers may take it for granted that they are largely responsible for all cases of mould reported on their butter. It is their business to see that these packages are made of proper material. It is their business to see that these packages and the parchment paper are properly handled and that the creamery is kept in a clean and sanitary condition.

Inferior parchment paper is often blamed for the presence of mould on butter, but poor paper can never be the primary cause. A poor quality of parchment paper, *i.e.*, one which has not been properly treated, simply provides food for the growth of mould, but the spores or seeds must be there in the first place, otherwise there would be no mould. It becomes important, therefore, that the paper should be a pure vegetable parchment which does not support the growth of mould.

The creamery cold storage should be thoroughly disinfected every few months by washing the whole interior with a solution of bi-chloride of mercury (corrosive sublimate) of a strength of 1 to 1,000. Any druggist will put up sufficient for the purpose. Being a very deadly poison, this substance must be carefully handled and cannot be used when the storage room contains butter. A treatment of this kind has the further advantage that it acts as a preservative of the wooden structure of the cold storage. The moulds which rot the wood are destroyed.

A simple coat of whitewash is effective in destroying mould.

IMPORTS OF BUTTER INTO THE UNITED KINGDOM.

Table V gives the total quantity of butter imported into the United Kingdom in the years 1900 to 1906, inclusive. The imports for 1906 were nearly one-third larger than in 1900, the actual increase being 958,472 cwts.

Denmark, the great source of supply, has not shown any increase since 1902. The

imports into Great Britain from Denmark have been fairly steady for the last six years. The same may be said of Sweden and Norway. The greatest increase in the imports comes from Russia and Australia. Russia's increase for 1906 is 49 per cent over 1904 and 31 per cent over 1905. The Russian trade is reviving from the effects of the war. The enormous development of buttermaking in Australia since the great drought was broken is one of the notable features of the butter trade during recent years. The total quantity exported to the United Kingdom in 1902 was only 80,387 cwts., as against 561,114 cwts. in 1906, which is a record for that country. New Zealand also shows a steady increase. The figures of the shipments from the United States, showing an increase from 84,874 cwts. in 1905, to 157,312 cwts. in 1906, are rather a surprise to those who have expected the home consumption of butter in that country to leave less every year for export. This is the largest quantity of butter shipped from the United States for many years, being three times the amount shipped in 1900 and nearly double what was shipped in 1905. It is not likely, however, that the increase from the United States will continue. It is a regrettable fact from an export point of view, that Canada's share of the British butter trade in 1906 was 101,149 cwts. less than the previous year, and less than the quantity shipped in 1901 and 1902.

TABLE V.—QUANTITIES OF BUTTER IMPORTED INTO THE UNITED KINGDOM IN THE YEARS 1900 TO 1906 INCLUSIVE.

(Years ending December 31.)

From	1900.	1901.	1902.	1903.	1904.	1905.	1906.
	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.
Russia	209,738	378,452	490,091	484,328	404,717	461,140	606,549
Sweden	196,041	180,212	191,591	212,232	206,791	188,209	182,803
Norway	26,085	26,341	26,266	23,197	28,532	31,773	29,302
Denmark, Iceland and Greenland	1,486,342	1,597,186	1,703,032	1,771,654	1,708,619	1,630,363	1,675,761
		264	589	1,107	2,632	3,022	2,319
Germany	36,042	26,983	26,375	12,507	4,080	5,372	10,701
Holland	282,805	298,912	393,261	343,761	252,262	209,897	195,366
Belgium	78,771	77,526	80,636	76,510	65,191	53,252	42,239
France	322,048	311,601	414,240	454,088	371,061	348,442	319,401
United States	56,046	150,126	54,458	42,405	68,754	84,874	157,312
Argentine Republic	27,098	22,787	69,336	80,491	82,568	77,033	48,737
Other Foreign Countries	920	515	23	586	.....	360	188
British East Indies	1,045	882	863	1,329	1,417	1,425	1,848
Australia	353,157	248,168	80,397	121,165	480,778	459,333	561,114
New Zealand	163,871	167,343	157,993	249,879	294,982	300,118	311,672
Canada	138,313	215,588	285,765	185,437	268,607	292,117	190,968
Other British Possessions	194	4	17	18	14	916	978
Total	3,378,516	3,702,890	3,974,933	4,060,694	4,241,005	4,147,866	4,337,258

Every once in a while some one comes forward with a glowing account of the possibilities and probabilities of the export of food products from the Argentine Republic. We have been told more than once that this country is to be one of the great butter producing countries of the world, and that we must prepare for severe competition from that quarter. We find, however, that the imports of butter from the Argentine into the United Kingdom reached the maximum in 1904, being 82,568 cwts. in that year, and that they have since declined, until in 1906 the amount imported was very little over half what it was in 1904.

The tremendous increase in the total importation no doubt accounts for the relatively low price of butter in Great Britain during the past few months. It is a point worth noting that there is very little probability of any large quantity of milk being diverted from butter to cheese, except in New Zealand and in Canada. Australia and Russia are not cheesemaking countries under any circumstances. The same

applies to Denmark and other parts of Scandinavia. Holland, Belgium and France produce large quantities of cheese, but the varieties which they make do not fluctuate in price as Cheddar does, nor do they compete directly with that variety. It is quite probable that the comparatively low price of butter will have the effect of checking the production generally, and thus help to restore the equilibrium of values.

SANITATION AND DAIRYING.

There is abundant evidence of a world-wide awakening as to the importance of sanitation in connection with the production and handling of milk and the manufacture of butter and cheese. It is satisfactory to note that Canadian farmers and dairymen are considering these questions, but the fact that other countries are moving rapidly in this direction makes it all the more important that Canadians should be up and doing. The general public is taking a much deeper interest in the preparation of all food products than they have ever done before, and they are demanding stricter attention to hygienic principles and the adoption of sanitary methods in their preparation. The dairymen of Canada will be acting the part of wisdom to note carefully the growing necessity for giving all these matters careful attention, if they wish to encourage the consumption of dairy products. In the province of Ontario considerable progress has been made towards improving the conditions surrounding cheese factories and creameries, by the appointment of sanitary inspectors and the proposal to bring all factories under supervision in this respect. This movement on the part of the provincial authorities of Ontario fits in well with the efforts being made by this Branch to improve the character of the cheese factory and creamery buildings, because without improvement in the buildings and facilities for drainage, proper sanitation at many of the factories is quite impossible. The enforcement of sanitary precautions in connection with dairy work imposes no hardship on the owners of factories and those who supply the milk for the manufacture of butter and cheese, because proper precautions taken on these grounds will be reflected in the quality of the butter and cheese manufactured, and, speaking generally, any provision made to secure proper drainage and other sanitary conditions makes a permanent improvement in the building, which is much cheaper in the end than the old makeshift, slipshod construction which has prevailed too long in many instances.

For plans and specification for improved cheese factory and creamery buildings see Dairy Commissioner's Report for 1906.

THE IMPROVEMENT OF DAIRY HERDS.

The organization of cow testing associations, now being encouraged by this Branch, has for its object the improvement of the dairy herds of Canada. Reference was made to this work in our last report, and the plan on which the associations are organized is therein described. Bulletin No. 12 also deals with the subject in detail.

In view of the importance of this question, it has been considered advisable to publish a fairly complete statement of the performance of the individual cows under test during the year. Mr. C. F. Whitley, of the dairy staff, who has charge of the records, has compiled the figures and made the notes thereon which are found in the following pages. It may be as well to remind the reader who may examine these records, that, generally speaking, it was the best dairymen in the district who joined the associations, so that the records are in all probability higher, on the average, than they would be if the record of every cow in the locality was included.

Apart from the testing done as a result of the organization of these associations, a large number of individual dairymen have been induced to take up the work on their own behalf.

Some of the more progressive cheese factory and creamery managers are also

taking an interest in the work, and have offered to do the testing for any of their patrons who desire to keep records of their herds. This is a legitimate work for any factory management to undertake, if satisfactory arrangements can be made to handle the extra work involved.

We regard this work so far as only preliminary to more thorough methods, which will include quantity and cost of feed, along with the value of the milk produced, in order to determine more accurately the net earning capacity of each cow.

The farmer who is not able to join a cow testing association, or to have samples of milk tested for percentage of fat, need not be deterred from keeping a record of weight of milk only, for the information such a record will give him will be found very useful in determining the relative value of his cows.

A careful study of Mr. Whitley's figures will reveal amazing contrasts in the production of cows of the same breed, receiving the same care and feed. One of the most important points brought out is that persistency in milk production is one of the main factors in building up a good year's record. Many cows start out well after calving, but show rapid shrinkage early in the season. It will be observed that a large number of the cows have been recorded only for five or six months and some even less, which represents in most cases the length of the milking period. A decided tendency to 'dry up' early seems to be the chief reason why a large proportion of the cows fail to make good records.

COW TESTING ASSOCIATIONS.

In 1906 sixteen cow testing associations were organized in Canada. Three were arranged in Ontario, at Brockville, Princeton and North Oxford, with a membership of 44 farmers entering 640 cows to be tested. In Quebec there were thirteen associations, at Cowansville, Mansonville, St. Armand, St. Edwidge, St. Camille, Lotbinière, Chicoutimi, Bagotville, Laterrière, St. Félicien, Normandin, Rivière a l'Ours and La Décharge, with a membership of 311 men and 3,882 cows.

The members agreed to weigh the milk from each individual cow in the herd, morning and evening, on three days during the month, at intervals of 10 days, right through the year. At each weighing a sample was taken, thus giving six samples from each cow every 30 days. The members provided themselves with spring scales, and one sample bottle for each cow. The Dairy Commissioner furnished blank forms, preservative, acid, &c., and an official to do the testing of the composite samples every month free of cost. Over 19,000 tests were made. Reports of each cow's yield were sent monthly to each farmer and a summary of each association's test was sent to all members, so that there was abundant opportunity of comparing the yields.

In many of the herds a decided increase in the flow of milk was noticeable in September. In some cases this was attributed by the members to cooler weather and better pasture. But where a little extra care and attention had been observed the results were marked: for instance, protection from flies, provision of green feed, and division of pasture into one or two small fields, allowing cows on the heaviest growth for two or three hours daily.

One of the best feeders and most successful dairymen amongst the members (see record of herd 27, Cowansville, Que.), writes that he feeds grain practically the year round, except for a short time when a cow is dry, in quantity according as her milk yield and her condition warrant. This indicates a careful study of the individual animal, which has evidently abundantly repaid him. In summer, he uses bran and cornmeal, and in winter gluten meal, linseed meal and ground barley. In winter, the roughage is ensilage, with early cut clover and mixed hay. The ordinary pasture on this particular farm is poor, so a liberal use is made of soiling crops: first clover; then peas, oats and vetches; then second crop clover; followed by green corn.

The prime object of the associations is to induce a study of each particular cow in the herd, with a view of keeping only such animals as will produce economically an abundant supply of milk containing a high percentage of fat.

TABLE VI.—AVERAGE YIELDS, 16 COW TESTING ASSOCIATIONS, 1906.

Period.	Quebec.				Ontario.				General average.			
	No. of Cows.	Milk.	Test.	Fat.	No. of Cows.	Milk.	Test.	Fat.	Total No. of Cows.	Milk.	Test.	Fat.
		lbs.		lbs.		lbs.		lbs.		lbs.		lbs.
4 Months	358	1,976	4·0	79·3	73	3,152	3·3	104·2	431	2,175	3·8	83·5
5 "	317	2,575	3·9	102·4	71	3,635	3·4	124·5	388	2,772	3·8	106·4
6 "	292	3,104	4·0	124·0	89	4,414	3·4	159·1	381	3,410	3·7	130·1
7 "	265	3,409	4·0	138·1	137	5,021	3·4	172·1	402	3,958	3·7	149·7
8 "	271	4,121	4·0	166·9	105	5,938	3·3	200·6	376	4,629	3·8	176·3
9 "	195	4,424	4·1	181·7	52	6,130	3·4	211·6	247	4,783	3·9	188·0
10 " ...	50	5,097	4·1	213·0	2	8,565	2·7	232·5	52	5,231	4·0	213·8
11 "	13	5,660	4·7	267·3	.....	.....	.....	.....	13	5,660	4·7	267·3

Table VI gives a summary of the tests made of such cows whose milk samples were sent in for four months or more. Unfortunately, many farmers only took weights and samples for one, two or three months; then they discontinued despite several efforts made to persuade them to persevere.

Generally speaking, the prevalent idea that Quebec milk is richer than Ontario milk is borne out by these averages, for the average test runs higher in each period. As the details of the cows in each herd printed below indicate, the animals included are representative of several breeds and crosses. The Quebec averages, more especially those of eight months and over, are greatly helped by the particularly good records of the high grade Jersey herd No. 27, in the Cowansville association, combining a lengthy season of milk production and a high percentage of fat. Similarly, the Ontario results owe much to some pure-bred Holsteins at Brockville and North Oxford.

Taking these things into consideration, coupled with the fact that in most associations the membership is composed of farmers with the best herds in the district, there is strong probability that the averages here given are higher than the actual average production in these provinces. (See the following paragraph 'Some Average Records.') Further work of the same nature will in all likelihood throw more light on this point. However, no matter what the average may be now, it is confidently expected that the next few years will see a marked improvement. The careful observation of each individual cow in the herd by several hundred farmers cannot be without fruitful results.

After the eight months' records, a rapid falling off in the number of cows tested is noticed. There may be some apathy in a continuance of the weighing month after month, which it is hoped to overcome as the benefits, indeed the necessity, of the work become more apparent; but the indications, from the weights sent in, are that the large majority of the cows were drying up quickly at the end of this period, which is all too short in this commercial age.

SOME AVERAGE RECORDS.

Ardock, Ont., cheese factory for the season of 1905, May 1 to October 31, had 315 cows giving an average of 2,596 pounds milk.

At North Star cheese factory, near Brockville, Ont., for the season of 1905, out of 22 herds whose total returns were carefully compiled, the highest average production of any one herd was 5,486 pounds of milk from 12 cows, costing $38.50 to feed for the year, and yielding an average profit of $7.89 per cow. At the same factory during the same time another herd of 15 cows had an average production of only 1,856 pounds of milk, indicating a serious loss when allowing fair prices for pasture, grain and hay.

Three other herds at this factory had an average of only 2,241, 2,753 and 2,865 pounds of milk.

For the season of 1905, April 24 to November 4, at Scottsvale, Que., cheese factory, the average production of 284 cows was 2,024 pounds of milk. Giving full credit for the milk sent to the factory, allowing full value for the yield outside the factory season, as well as whey and skim milk, also valuing the milk and butter for domestic use, the average receipts per cow stood at $28.61 for the full twelve months.

Not far from this is another cheese factory at Farnham Centre, Que., where the average yield of 472 cows was 3,040 pounds of milk, and the total receipts from all sources averaged $36.07 per cow for twelve months.

SOME GOOD RECORDS.

In contrast to the foregoing these two herds are worth noting.

A good record at Huntingdon, Que., of 28 cows shows an average yield of 6,956 pounds of milk, testing 3·9, in 12 months.

A herd of 19 cows near Ingersoll, Ont., has an average yield of 7,231 pounds of milk in 9 months, value $66.55 per cow. At the same factory the average of the 1,000 cows belonging to the patrons stands at 4,400 pounds of milk. It should not be difficult to increase the yield by 500 pounds of milk per cow; this would mean another $4,500 coming to the patrons.

The records of each association may now be considered separately.

TABLE VII.—AVERAGE YIELDS OF 30 DAY PERIODS, BROCKVILLE, ONT., 1906.

30 Days ending.	Total No. of Cows.	Average.		
		Pounds of Milk.	Test.	Pounds of Fat.
Feb. 28	5	1,435	2·9	42·9
Mar. 30	14	1,032	3·2	33·3
April 30	50	828	3·1	25·9
May 30	146	891	3·3	30·2
June 30	162	934	3·2	30·1
July 30	131	823	3·1	26·0
Aug. 30	135	715	3·4	24·6
Sept. 29	97	703	3·4	24 3
Oct. 30	65	581	3·8	21·9
Nov. 30	82	356	3·7	13·3
Dec 30	28	412	3·5	15 7

Following this summary of each association will be found the details of each individual cow in every herd whose milk samples were sent in to be tested for four months or more during the year.

BROCKVILLE, ONT.

Taking the records of the Brockville association, in herd 9 it is found that 6 cows average 6,274 pounds of milk each in 9 months; a good showing. The best record for that period is 6,948 pounds from the 3-year-old cow No. 5.

In herd 2 is a strong contrast between the two 6-year-olds milking 10 months, a *difference* of 4,444 pounds of milk and 124 pounds of fat. Individuality is everything; it is not a matter of breed, age or pedigree only. In herd 2 the total fat production of cow No. 2 in 8 months is only 21 pounds lower than that of cow No. 1 in 10 months. The former indicates an average fat test of 3·4, the latter 2 8 per cent.

In herd 6, cow No. 16 is still working away at her life mission, milk production, at the age of 15. It is gratifying to note such commendable service. Are not some

of our best cows, and best bulls, disposed of too early? Records of production will obviate sacrificing good stock prematurely.

Herd 12 contains 4 good cows with a good average fat production for 8 months, one of them almost touching the 10,000 pound mark in milk yield. Evidently it pays to grade up with a first-class sire.

In herd 14 the older animals milking 4 months show a far better average than those in herd 15, milking 6 months.

In herd 6 the 12 cows milking 6 months show a total production of 60,693 pounds of milk containing 2,075 pounds of fat; but in herd 15 the 12 cows milking 6 months show only a total of 35,359 pounds of milk and 1,123·8 pounds of fat.

Again, 6 cows in five months yield 30,984 pounds of milk, but in another herd 12 cows give only 32,749 pounds during the same period. It is evident that better cows mean not only much less work, but more profit and infinitely more satisfaction.

TABLE VIII—TOTAL PRODUCTION OF INDIVIDUAL COWS, BROCKVILLE, ONT.

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months Tested.	Milk.	Fat.
						Lbs	Lbs.
2	11		2	August 10, 1906	5	3,290	90·9
	10		3	" 7, 1906	5	4,185	115·1
	12		4	" 10, 1906	5	5,940	158·5
	8	Holstein	10	May 14, 1906	7	4,921	144·7
	7	"	6	" 12, 1906	7	6,213	171·8
	9	"	2	" 20, 1906	8	4,364	130·5
	5	"	6	" 3, 1906	8	6,515	178·5
	6	"	11	April 26, 1906	8	6,830	185·7
	4	"	12	" 28, 1906	8	6,973	190·0
	2	Pure Holstein	3	February 26, 1906	8	8,081	273 3
	3	"	6	March 20, 1906	10	6,343	170·5
	1	"	6	February 18, 1906	10	10,787	294·5
3	6	Grade Ayrshire	5	March 11, 1906	4	2,560	78·3
	3	"	4	" 6, 1906	4	3,070	94·5
	4	"	5	" 9, 1906	4	2,870	98·1
	5	"	6	" 6, 1906	4	3,195	107·0
	1	"	5	February 25, 1906	4	3,710	128·8
	2	"	7	March 2, 1906	4	3,600	144·7
4	18	Grade Holstein	8	July 5, 1906	4	4,300	135·1
	17			June 7, 1906	5	3,518	108·4
	16			May 30, 1906	5	3,600	121·3
	14	Grade Holstein	2	" 6, 1906	6	3,490	105·6
	13				6	4,470	138·3
	15	Grade Holstein	4	May 13, 1906	6	4,682	152·7
	12				6	4,800	165·4
	1	Holstein	3	March 17, 1905	7	2,240	78·4
	10	Grade Holstein	7	" 31, 1906	7	4,710	151·0
	11	"	6	April 14, 1906	7	4,580	154·8
	9	"	4	March, 1906	7	5,900	191·5
	8	Holstein	7	" 28, 1906	7	7,050	209 6
	2	"	5	April 29, 1905	8	4,120	134·2
	3	"	7	February 20, 1905	8	5,020	163·5
	4	"	7	" 15, 1905	8	4,840	181 6
	7	"	9	March 22, 1906	8	6,140	185·9
	6	"	4	" 16, 1906	8	6,578	199·6
	5	"	5	" 7, 1906	8	6,289	238·2
6	9	Ayrshire	2	May 15, 1906	4	2,278	70·0
	12				4	3,060	94·1
	13	Ayrshire			4	3,450	162·2
	10	Holstein	6	February 28, 1906	4	2,950	123·9
	17	Jersey			4	3,390	185·4
	1	Ayrshire	3	January 1, 1906	5	4,070	149·5
	18	"			5	4,640	178·6

TABLE VIII.—TOTAL PRODUCTION OF INDIVIDUAL COWS, BROCKVILLE, ONT.
—Continued.

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months Tested.	Milk.	Fat.
						Lbs.	Lbs.
6	20			April 20, 1906	6	3,710	147·5
	19			" 15, 1906	6	4,695	151·0
	15	Ayrshire			6	4,450	156·0
	4	Holstein	5	March 27, 1906	6	4,600	157·0
	3	Ayrshire	4	April 15, 1906	6	4,992	167·1
	7	Holstein	6	March 25, 1906	6	4,960	169·4
	16		15	" 22, 1906	6	5,380	173·6
	5	Holstein	5	April 17, 1906	6	5,082	184·3
	8		6	March, 1906	6	6,150	186·4
	14	Durham	8	April 16, 1906	6	5,354	186·8
	2	Holstein	4	March 28, 1906	6	5,730	193·4
	6	"	6	" 20, 1906	6	5,860	202·5
7	15	Grade Ayrshire	3	May 15, 1906	5	2,485	88·0
	1	"	5	" 27, 1906	5	3,335	108·7
	14	"	5	" 18, 1906	5	3,275	127·7
	13	"	5	" 17, 1906	5	3,775	145·9
	12	Grade	14	" 10, 1906	6	3,375	122·7
	4	Grade Ayrshire	8	March 27, 1906	7	4,060	140·8
	7	"	11	April 7, 1906	7	4,198	154·6
	11	"	13	" 14, 1906	7	4,193	155·0
	3	Grade Holstein	5	March 27, 1906	7	4,365	156·2
	5	Grade Ayrshire	12	" 28, 1906	7	4,405	157·1
	6	Grade Holstein	3	April 6, 1906	7	4,394	160·0
	9	"	5	" 8, 1906	7	5,130	168·5
	10	Grade Ayrshire	8	" 13, 1906	7	5,283	182·0
	8	"	10	" 7, 1906	7	4,518	186·0
	2	"	9	March 23, 1906	8	4,308	152·2
8	12	Holstein	8	June 23, 1906	4	3,090	125·8
	11	"	8	May 26, 1906	5	3,980	131·5
	10	"	6	" 22, 1906	5	4,000	137·1
	8	Grade Holstein	7	April 20, 1906	6	3,700	130·8
	9	"	5	" 24, 1906	6	4,610	144·4
	3	"	5	March 20, 1906	7	4,750	156·3
	7	"	6	April 2, 1906	7	4,801	156·7
	1	Grade Durham	3	March 18, 1906	7	4,430	168·2
	5	Grade Holstein	8	" 26, 1906	7	5,030	170·7
	2	"	4	" 20, 1906	7	5,200	199·0
	4	"	6	" 21, 1906	7	5,700	190·5
	6	"	7	" 30, 1906	7	5,920	194·7
9	12		3	June 5, 1906	7	4,790	169·3
	11	Grade Jersey	10	May 20, 1906	8	4,830	160·8
	9	Grade	3	April 16, 1906	8	4,675	188·3
	10	Pure Ayrshire	6	May 3, 1906	8	6,466	219·3
	4	Grade Holstein	2	April 2, 1906	9	3,810	153·1
	8	" Jersey	2	" 14, 1906	9	4,172	166·1
	1	" Holstein	8	March 15, 1906	9	6,620	181·6
	3	" Ayrshire	9	" 24, 1906	9	5,280	212·1
	2	" "	7	" 16, 1906	9	5,650	235·2
	7	Pure Ayrshire	7	April 13, 1906	9	6,390	240·8
	6	Grade	6	" 14, 1906	9	6,776	248·3
	5	Pure Ayrshire	3	" 12, 1906	9	6,948	258·7
12	12	Grade Holstein	10	" 15, 1906	5	5,820	180·9
	9	"	8	May 19, 1906	6	6,938	229·6
	11	"	2	March 18, 1906	7	3,950	118·1
	10	"	3	April 4, 1906	7	4,316	144·3
	2	"	3	March 24, 1906	7	5,290	160·8
	5	"	7	April 25, 1906	7	5,630	214·6
	6	"	7	May 11, 1906	7	7,340	224·2
	7	"	8	" 15, 1906	7	6,740	251·4

TABLE VIII.—TOTAL PRODUCTION OF INDIVIDUAL COWS, BROCKVILLE, ONT.
—*Concluded.*

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months Tested.	Milk.	Fat.
						Lbs.	Lbs.
12	3	Grade Holstein	6	April 4, 1906	8	7,708	256·1
	4	"	7	" 11, 1906	8	7,017	270·8
	1	"	9	" 14, 1906	8	8,724	291·8
	8	"	7	March 24, 1906	8	9,990	316·4
13	13		6	May 24, 1906	4	2,795	85·0
	12		12	" 6, 1906	4	3,264	122·2
	8			April 16, 1906	5	2,728	92·1
	10			" 19, 1906	5	3,324	109·8
	2			" 2, 1906	5	2,868	118·5
	3			" 4, 1906	5	3,407	118·8
	9			" 18, 1906	5	3,664	123·1
	7			" 15, 1906	5	3,512	125·3
	6			" 8, 1906	5	3,520	129·0
	4			" 3, 1906	5	3,609	130·4
	1			March 15, 1906	5	3,880	137·4
	5			April 9, 1906	5	3,562	140·0
14	14	Grade Holstein	3	March, 1906	4	2,880	80·8
	10	"	3	April, 1906	4	3,090	84·3
	9	"	4	" 1906	4	2,890	86·9
	1	"	2	January 2, 1906	4	2,920	89·3
	13	"	4	April, 1906	4	3,490	91·8
	3	"	7	" 1906	4	3,530	96·8
	15	"	4	" 1906	4	3,120	98·7
	8	"	3	May, 1906	4	3,110	99·9
	6	"	3	April, 1906	4	3,270	105·1
	2	"	7	" 1906	4	3,300	107·1
	16	"	6	" 1906	4	3,820	110·7
	12	"	5	" 1906	4	3,430	112·1
	17	"	8	March, 1906	4	3,600	117·2
	11	"	8	April, 1906	4	3,950	118·3
	18	"	4	March, 1906	4	3,320	118·6
	7	"	4	April, 1906	4	4,120	137·6
	5	"	10	" 1906	4	4,720	149·3
15	16	Grade	7	July 15, 1906	4	2,598	77·5
	14	"	2	May 30, 1906	5	2,190	73·6
	15	"	7	June 5, 1906	5	3,300	93·9
	13	Grade Holstein	2	May 14, 1906	6	2,309	68·7
	10	"	3	October 15, 1905	6	2,210	70·4
	7	"	3	December 1, 1905	6	2,490	77·3
	8	"	4	March 15, 1906	6	2,520	85·2
	2	"	3	April 20, 1906	6	3,050	86·2
	11	"	3	" 20, 1906	6	3,000	91·8
	9	"	6	March 20, 1906	6	3,010	97·5
	1	"	4	April 1, 1906	6	3,240	99·5
	6	"	6	" 2, 1906	6	3,380	99·8
	3	Common	8	March 25, 1906	6	3,170	104·0
	4	"	9	April 20, 1906	6	3,390	121·5
	5	"	8	" 23, 1906	6	3,590	121·9

TABLE IX.—AVERAGE YIELDS OF 30 DAY PERIODS, PRINCETON, ONT., 1906.

30 Days ending	Total No. of Cows.	Average.		
		Pounds of Milk.	Test.	Pounds of Fat.
April 17	31	540	3·3	18·1
May 14	45	671	3·3	22·4
June 14	85	816	3·4	28·5
July 14	107	722	3·4	24·7
Aug. 14	93	607	3·5	21·6
Sept. 14	72	580	3·8	22·2
Oct. 14	56	503	3·9	19·8
Nov. 14	38	367	4·1	15·2
Dec. 14	36	321	3·6	11·8

PRINCETON, ONT.

In herd 9 the 4 cows tested for 7 months have a total production of 14,850 pounds of milk, but in herd 16 the 4 cows in 7 months show 23,760 pounds, or 8,910 pounds of milk and 341·3 pounds of fat *more*.

There are great possibilities still to be achieved in building up a good herd.

TABLE X.—TOTAL PRODUCTION OF INDIVIDUAL COWS, PRINCETON, ONT.

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months Tested.	Milk.	Fat.
						Lbs.	Lbs.
2	4	Grade Durham	5	April 15, 1906	6	4,475	174·6
	3	Grade Jersey	4	" 15, 1906	6	4,355	184·6
	5	" "	4	" 10, 1906	6	4,490	186·4
	1	Grade Durham	5	March 31, 1906	6	5,470	188·6
	2	Grade Ayrshire	7	April 14, 1906	6	5,670	201·3
3	2		4	May 13, 1906	4	2,700	100·1
	7	Ayrshire-Durham	5	April 19, 1906	5	2,924	92·5
	1	High Grade Durham	5	" 15, 1906	5	2,925	110·9
	4	Jersey-Durham	8	" 21, 1906	5	3,220	125·0
	5	High Grade Durham	7	" 20, 1906	5	3,711	130·8
4	1	Mixed, mostly Durham Grades.		Calved between Feb. and June 1906.	4	2,055	78·8
	4				4	2,470	91·1
	7				4	2,640	96·3
	9				5	2,775	93·7
	5				5	2,815	104·5
	8				5	2,780	109·7
	3				5	3,100	114·2
	2				5	3,420	124·0
	10				5	3,140	128·3
	6				5	3,485	133·2
6	5	Jersey	8	February 21, 1906	5	2,100	87·4
	2	Common Grade	6	June, 1905, November, 1906	5	2,650	92·9
	1	Grade Durham	3	October, 1905	7	2,450	113·4
	4	Durham-Jersey	7	February, 1906	7	3,380	130·9
	3	Durham-Holstein	6	March, 1906	8	3,610	127·0
7	12	Grade Durham-Ayrshire	3	May 27, 1906	5	1,940	68·2
	13	" " "	3	June 19, 1906	6	2,930	109·4
	4	Grade Durham	3	August, 1905, August, 1906	7	2,790	95·1

TABLE X.—TOTAL PRODUCTION OF INDIVIDUAL COWS, PRINCETON, ONT.—*Concluded*

Herd Number.	Cow Number.	Bered.	Age.	Date of Calving.	Number of Months Tested.	Milk.	Fat.
						Lbs.	Lbs.
8	7	Grade	2	May 1, 1906	7	3,080	120·6
	8	High Grade Jersey	7	" 21, 1906	7	2,510	124·3
	11	Grade Ayrshire	7	" 26, 1906	7	3,400	126·3
	10	Ayrshire-Durham	5	" 28, 1906	7	3,520	142·2
	9	Grade	5	" 21, 1906	7	3,830	146·2
	1	Jersey	7	September, 1905	8	3,740	149·3
	3	Ayrshire-Durham	4	July, 1905	9	3,510	129·7
	6	Grade Durham	5	April 12, 1906	9	4,170	155 0
	5	Grade Ayrshire-Jersey	5	March 7, 1906	9	4,860	168·3
	2	Grade Durham	8	" 14, 1906	9	4,900	190·0
8	5	" "	9	" 17, 1906	4	2,665	78·9
	6	Grade Jersey	6	May 28, 1906	6	3,303	125·5
	7	Grade Holstein	14	April 29, 1906	6	4,750	150·3
	4	Grade Durham	7	" 16, 1906	7	4,860	160·8
	3	Grade Jersey	5	March 28, 1906	8	5,140	179·7
	2	" "	5	" 26, 1906	8	5,829	187·9
9	8	Grade	7	June 15, 1906	6	3,370	113·1
	7	"	5	April 20, 1906	7	3,700	115·9
	2	"	4	January 20, 1906	7	3,530	122·5
	5	Grade Durham	5	June 3, 1906	7	2,750	123·4
	1	Holstein	5	January 16, 1906	7	4,870	140·3
	6	Grade	5	April 25, 1906	8	4,310	161·5
	4	Grade Durham	3	January 8, 1906	9	3,910	134·6
	3	Grade Holstein	3	" 15, 1906	9	3,560	138·7
10	7	Grade Durham	3	October 20, 1905, October, 1906.	6	3,075	100·9
	8	Grade Holstein	3	September 1,1905, August,1906.	7	3,207	105·8
	1	" "	2	April 16, 1906	7	3,900	123·1
	4	" "	4	" 20, 1906	7	4,575	138·0
	3	" "	4	March 14, 1906	7	4,992	147 3
	2	Common	5	September 20,1905, August,1906.	8	4,049	145·7
	6	"	5	March 30, 1906	8	5,308	171·9
13	7	Grade Jersey	2	April 15, 1906	4	2,160	68·9
	4	Grade Durham	8	March 21, 1906	4	2,615	83·7
	6	" "	3	" 19, 1906	4	2,375	83·9
	5	" "	8	April 4, 1906	4	2,810	93·3
	2	" "	8	February 12, 1906	4	2,790	94·9
	1	Grade Jersey	8	" 8, 1906	4	3,035	99·2
	3	" "	9	April 24, 1906	4	4,110	141·4
16	4		4	May 22, 1906	6	4,190	146 6
	6		5	" 28, 1906	6	5,270	190·6
	7		12	July 2, 1906	6	5,540	226·3
	2	Grade Durham	4	April 16, 1906	7	4,920	175 5
	3	" "	11	" 20, 1906	7	5,880	194 6
	5	" "	8	May 6, 1906	7	6,710	219·8
	1	" "	8	April 8, 1906	7	6,680	253·5
17	2	" "	5	December, 1905	4	1,715	65·0
	5	" "	5	" 1905	4	1,940	72 6
	7	" "	8	May, 1906	4	3,990	137·4
	6	Jersey-Durham	10	" 1906	4	3,525	138 4
	4	Grade Durham	3	December, 1905	5	2,130	84·5
	9	" "	4	" 1905	5	2,175	85·4
	3	Holstein-Durham	6	February, 1906	5	4,295	147·0

TABLE XI.—AVERAGE YIELDS OF 30 DAY PERIODS, NORTH OXFORD, ONT., 1906.

30 Days ending.	Total number of Cows.	Average.		
		Pounds of Milk.	Test.	Pounds of Fat.
April 21	80	833	3·2	27·2
May 21	209	873	3·2	27·9
June 21	288	1,004	3·2	32·9
July 21	304	867	3·2	28·0
Aug. 21	271	722	3·4	24·7
Sept. 21	278	728	3·3	24·5
Oct. 21	258	638	3·7	23·6
Nov. 21	183	521	3·8	19·8
Dec. 21	112	443	3·9	17·2

North Oxford, Ont.

In the weighing and sampling at North Oxford there was more persistent effort by the members than at the other two Ontario centres.

In herd 1 the 6-year-old cow No. 4 gives 182·7 pounds of fat, or 78 pounds less in 8 months than the 10-year-old cow No. 1. The variation in herd 9 for 7 months is from 148 to 122 pounds of fat, a difference of 74 pounds between the highest and lowest individual yields. It is similar in herd 10, the difference being 98 pounds of fat in 9 months between two 4-year-olds.

In herd 2 the 2 and 3-year-olds are making splendid promise.

Herd 7 has the gratifying average of over 260 pounds of fat from 9 cows milking 9 months. 7 of them are grades.

In herd 5 the 4 cows tested 7 months have a total yield of 15,190 pounds of milk, but in herd 4, 30,730 is the yield from the 5 cows tested 7 months; only one cow more, but more than double the quantity of milk. Again in herd 7 the 3 cows tested 7 months give 17,190 pounds, or 2,000 pounds more milk than the 4 cows in herd 5.

Attention is drawn to one important benefit of this association work. It not only saves farmers from wasting good feed on poor cows, but it also insures fairer treatment for good cows.

The owner of herd 2, who is a patron of the cheese factory and also ships milk to Toronto from Ingersoll, has very decided ideas as to what his cows should do for him if they expect him to provide them with board and lodging. One particular heifer did not come up to his demands and never gave more than 37 pounds of milk during any one day; accordingly he decided to sell her. However, on continuing the weighing, it was noticed that she did not fall off quickly or shrink very much in her yield. Hence the decision to retain her in the herd for a time. This was a most wise resolve, as she proved herself a good persistent milker and actually gave 11,155 pounds of milk, selling for $115.54. The main point to notice is that this valuable animal, worth several hundreds of dollars, would have been needlessly sacrificed unless a definite system of weighing and recording the milk yield had been practiced.

Herd 14 has the excellent record of 9 cows tested 8 months yielding in that time a total of 69,702 pounds of milk.

TABLE XII.—TOTAL PRODUCTION OF INDIVIDUAL COWS, NORTH OXFORD, ONT.

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months tested.	Milk.	Fat.
						Lbs.	Lbs.
1	17	Durham	3	March, 1905	4	1,680	56·2
	16	"	3	May, 1905	4	2,040	75·0
	21	"	2	June 26, 1906	6	4,065	152·9
	20	"	2	May 10, 1906	7	3,750	137·4
	19	"	2	" 25, 1906	7	4,260	163·5
	18	"	2	" 16, 1906	7	4,470	167·0
	8	Grade Durham	10	June 6, 1906	7	6,280	216·1
	4	Durham	6	April 24, 1906	8	5,449	182·7
	9	"	8	May 4, 1906	8	5,231	185·5
	14	"	3	" 10, 1906	8	5,396	188·7
	13	Grade Durham	4	April 13, 1906	8	5,610	204·0
	12	Durham	6	" 5, 1906	8	6,100	211·7
	15	"	3	May 4, 1906	8	6,095	215·4
	7	Grade Holstein-Durham	9	April 21, 1906	8	6,920	216·1
	2	Grade Durham	9	" 15, 1906	8	6,240	222·3
	11	"	10	" 13, 1906	8	6,480	223·5
	10	Grade Holstein-Durham	7	" 13, 1906	8	7,205	232·8
	6	Grade Durham	12	" 18, 1906	8	6,285	245·5
	5	"	11	" 11, 1906	8	6,585	250·8
	3	Grade Holstein-Durham	7	" 18, 1906	8	7,375	256·1
	1	Grade Durham	10	May 10, 1906	8	7,200	261·1
2	30	Grade Holstein	6	April 6, 1905	5	3,010	111·5
	22	"	4	October 5, 1905	6	4,025	142·0
	32		4	" 1, 1905	6	4,060	154·4
	29	Holstein	4	August 9, 1905	6	5,020	170·9
	23	Grade Holstein	12	Sept. 1, 1906	6	5,055	174·0
	11	Holstein	2	April 4, 1906	7	3,287	110·9
	21	"	2	August 2, 1905	7	4,305	147·1
	31	Grade Holstein	5	September 3, 1905	7	4,355	158·6
	26	"	5	" 20, 1905	7	4,885	159·2
	28	"	4	October 1, 1906	7	6,145	205·6
	12	"	3	April 19, 1906	8	5,335	172·4
	4	"	2	" 23, 1906	8	5,055	178·8
	20	Holstein	3	December, 1905	8	5,775	180·8
	24	Grade Holstein	13	November 20, 1905	8	5,470	186·8
	6	"	4	May 6, 1906	8	5,848	193·2
	7	Holstein	3	April 23, 1906	8	6,620	208·8
	3	Grade Holstein	12	" 25, 1906	8	7,170	215·4
	2	"	12	May 12, 1906	8	7,550	221·8
	15	"	3	March 12, 1906	8	6,490	229·9
	1	"	10	May 5, 1906	8	8,174	289·7
	13	"	2	March 26, 1906	9	5,240	181·0
	10	Holstein	2	April 2, 1906	9	5,300	181·2
	9	"	2	March 4, 1906	9	6,190	199·0
	16	Grade Holstein	3	April 4, 1906	9	6,160	202·0
	14	"	3	March 12, 1906	9	6,545	205·7
	25	Holstein	2	November 5, 1905	9	6,600	214·7
	5	Grade Holstein	2	April 5, 1906	9	6,520	223·6
	27	"	5	October 18, 1905	9	7,180	223·8
	17	"	4	March 22, 1906	9	6,475	228·1
	18	"	4	" 3, 1906	9	6,915	254·6
	8	"	4	" 25, 1906	9	7,652	268·5
3	16	Grade	11	May 19, 1906	6	4,115	127·7
	15	"	12	" 19, 1906	6	4,490	134·8
	11	"	7	April 24, 1906	7	4,190	121·3
	13	"	8	" 30, 1906	7	5,237	165·7
	14	"	10	May 12, 1906	7	5,560	181·9
	9	"	9	April 20, 1906	7	4,920	190·8
	10	"	7	" 21, 1906	7	5,470	209·4
3	12	Grade	11	April 30, 1906	7	6,316	244·4
	8	"	3	" 13, 1906	8	4,328	139·3
	7	"	12	" 12, 1906	8	5,605	144·3

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TABLE XII.—TOTAL PRODUCTION OF INDIVIDUAL COWS, NORTH OXFORD, ONT.
—Continued.

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months Tested.	Milk.	Fat.
						Lbs.	Lbs.
	1	Grade	6	March 1, 1906	8	5,470	152·1
	6	"	5	April 10, 1906	8	5,329	179·5
	3	"	12	March 15, 1906	8	4,940	194·0
	5	"	5	April 3, 1906	8	5,840	202·1
	4	"	7	" 1, 1906	8	6,040	203·2
	2	"	7	March 20, 1906	8	6,850	212·1
4	9	Grade Holstein	8	May 27, 1906	5	4,900	141·9
	7	"	6	" 27, 1906	6	5,980	180·3
	19	"	3	" 27, 1906	7	5,230	153·9
	15	"	3	" 15, 1906	7	5,500	170·1
	6	"	8	" 27, 1906	7	6,490	197·7
	8	"	8	March 5, 1906	7	6,740	199 5
	5	"	8	" 28, 1906	7	6,770	200·4
	17	"	3	April 20, 1906	8	5,405	173·4
	13	"	3	May 1, 1906	8	5,492	179·2
	3	"	10	April 22, 1906	8	6,970	206·1
	11	"	6	" 27, 19 6	8	6,783	226·7
	4	"	10	May 1, 1906	8	6,893	236·5
	20	"	3	March 21, 1906	9	5,390	171·1
	18	"	3	April 8, 1905	9	6,535	198·2
	1	"	4	March 7, 1906	9	6,935	204·9
	14	"	3	April 5, 1906	9	5,735	204·4
	2	"	5	March 4, 1906	9	6,860	218 9
	16	"	3	April 1, 1906	9	6,300	219·1
	10	"	4	March 27, 1906	9	7,710	219·4
	12	"	7	April 2, 1906	9	7,615	244·6
5	15	Grade Holstein	5	August 13, 1906	4	2,270	81·4
	13	Grade	6	" 18, 1906	4	2,760	97·1
	16	Grade Holstein	8	April 26, 1906	6	4,050	113·7
	17	Grade Durham	8	" 10, 1906	6	4,330	130·2
	4	Grade Holstein	6	June 20, 1906	6	4,450	138·9
	10	"	2	May 25, 1906	7	3,210	108·0
	14	"	6	" 1905	7	3,880	146 3
	8	Grade Jersey	9	June 11, 1906	7	3,610	148·5
	2	Grade Holstein	4	April 25, 1906	7	4,490	149·8
	11	"	2	" 13, 1906	8	2,660	109·5
	1	"	3	" 10, 1906	8	4,260	143·6
	12	"	4	" 26, 1906	8	4,880	159·1
	18	"	5	" 25, 1906	8	4,960	167·0
	5	"	8	" 22, 1906	8	5,560	168·3
	7	"	10	" 24, 1906	8	4,810	171·1
	9	"	8	May 17, 1906	8	5,545	180·1
	3	"	8	April 12, 1906	8	4,970	180·4
	6	Grade Jersey	9	May 1, 1906	8	4,345	182·9
6	1	Grade	3	" 22, 1906	4	2,770	99·1
	4		3	" 24, 1906	4	3,230	103·5
	11		10	" 24, 1906	4	3,710	112·9
	13		3	" 11, 1906	5	3,570	117·1
	14		3	April 24, 1906	5	3,910	120·1
	5		7	May 5, 1906	5	4,102	154·5
	8		5	" 5, 1906	5	5,505	180 2
	10	Grade	3	April 8, 1906	6	5,335	150·3
	7	"	5	March 20, 1906	6	5,070	164·0
	6	"	7	" 14, 1906	6	5,520	173·5
	12	"	5	April 5, 1906	6	6,328	194·4
	2	"	8	March 17, 1906	6	5,720	195·7
7	19	Pure	7	May 1, 1906	7	5,400	188·9
	11	Grade Durham	7	March 20, 1906	7	6,350	205·7
	20	Pure	4	May 12, 1906	7	5,440	209·7

TABLE XII.—TOTAL PRODUCTION OF INDIVIDUAL COWS, NORTH OXFORD, ONT.
—*Continued.*

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months Tested.	Milk.	Fat.
						Lbs.	Lbs.
7	8	Pure Durham	6	April 4, 1906	8	5,967	185·9
	13	Grade	3	" 6, 1906	8	5,040	201·5
	16	"	4	" 8, 1906	8	6,360	227·9
	18	Grade Durham	7	" 14, 1906	8	6,910	242·3
	14	Grade	6	" 15, 1906	8	6,540	252·3
	15	"	4	March 26, 1906	8	6,850	254·2
	12	Grade Durham	6	April 2, 1906	8	7,130	264·3
	17	Pure Ayrshire	5	" 4, 1906	8	7,670	265·7
	7	Pure Durham	8	" 6, 1906	9	6,945	225·9
	6	Grade	6	" 5, 1906	9	6,658	229·2
	4	"	7	March 15, 1906	9	7,780	249·3
	10	"	5	April 3, 1906	9	7,166	251·5
	1	Grade Durham	7	" 1, 1906	9	6,080	257·1
	3	Grade	7	March 12, 1906	9	8,420	275·4
	9	"	7	April 1, 1906	9	8,380	281·0
	2	"	6	" 3, 1906	9	7,554	282·2
	5	Pure Durham	8	" 4, 1906	9	8,102	296·7
8	5	Pure Holstein	5	May 2, 1906	4	4,080	108 2
	6		7	April 26, 1906	4	3,374	111·7
	17		3	March 31, 1906	5	3,135	99·9
	1	Grade Holstein	4	April 4, 1906	5	3,413	109·7
	8		8	" 3, 1906	5	3,684	115 3
	2	Grade Holstein	9	" 10, 1906	5	3,680	132·5
	9	"	8	" 12, 1906	5	3,955	146·5
9	6	Durham	3	" 1, 1906	7	4,130	148·0
	2	Holstein	4	" 13, 1906	7	4,799	158 7
	5	Durham	7	" 14, 1906	7	5,047	178·5
	10	Holstein	5	" 4, 1906	7	5,830	181·7
	3	Durham	7	" 10, 1906	7	5,415	184·7
	8	Holstein	8	April 4, 1906	7	5,905	195·0
	1	"	4	" 8, 1906	7	5,456	195·7
	4	Durham	9	" 8, 1906	7	5,733	199·3
	9	"	7	" 10, 1906	7	5,815	216 0
	7	Jersey	8	" 3, 1906	7	5,805	222·2
10	13	Pure Holstein	4	June 7, 1906	7	4,631	142·9
	3	Grade Jersey		March 8, 1906	7	5,080	184·2
	11	"	9	May 1, 1906	8	3,985	173·3
	1	"	7	December 10, 1905	8	4,930	185 4
	12	Jersey Holstein	7	May 4, 1906	8	5,829	209·2
	2	Grade Jersey	7	December 3, 1905	8	5,185	211·0
	8	Grade Ayrshire	4	March 31, 1906	9	4,590	164·2
	5	Grade Holstein	9	" 13, 1906	9	4,655	167·9
	10	Ayrshire-Durham	11	April 12, 1906	9	5,817	173·2
	4	Grade Holstein	4	March 12, 1906	9	5,360	176·1
	7	"	4	" 20, 1906	9	6,050	225·4
	6	"	11	" 15, 1906	9	7,095	230·9
	9	Ayrshire-Jersey	4	" 25, 1906	9	6,570	262·2
11	30	Grade Holstein	10	June 25, 1906	4	3,710	120·3
	29	"	7	May 6, 1906	5	4,640	156·1
	25	Grade Ayrshire	2	April 26, 1906	6	4,066	131·7
	23	Grade Holstein	10	" 17, 1906	6	4,310	146 1
	26	"	2	" 25, 1906	6	3,740	157·0
	20	Grade Ayrshire	5	April 15, 1906	6	4,843	158·6
	24	" "	6	" 10, 1906	6	4,610	179·3
	21	Grade Holstein	6	" 11, 1906	6	5,920	181·2
	28	Grade Guernsey	7	May 1, 1906	6	5,070	181·9
	22	Grade Durham	7	April 12, 1906	6	6,080	182·6
	19	Grade Holstein	2	" 18, 1906	6	4,350	190·2
	27	" "	8	May 3, 1906	6	5,852	192·7

TABLE XII.—TOTAL PRODUCTION OF INDIVIDUAL COWS, NORTH OXFORD, ONT.
—*Continued.*

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months Tested.	Milk.	Fat.
						Lbs.	Lbs.
11	2	Grade Ayrshire	10	January 5, 1906	7	4,320	147·3
	10	Grade Holstein	3	February 2, 1906	7	4,200	147·8
	11	" "	3	March 25, 1906	7	4,850	166·8
	1	" "	5	January 9, 1906	7	5,330	179·7
	15	Grade Durham	10	March 21, 1906	7	5,110	179·8
	13	" "	8	" 11, 1906	7	5,470	187·2
	9	Grade Holstein	7	" 8, 1906	7	5,460	188·1
	5	Grade Jersey	5	" 11, 1906	7	5,100	190·9
	12	Grade Guernsey	7	" 13, 1906	7	5,660	195·0
	7	Grade Holstein	8	" 24, 1906	7	6,050	203·8
	4	Grade Ayrshire	7	February 16, 1906	7	6,360	209·8
	3	Grade Jersey	7	" 17, 1906	7	5,390	210·5
	17	Grade Ayrshire	6	March 25, 1906	7	5,750	212·8
	16	Grade Durham	5	" 27, 1906	7	6,420	215·6
	18	" "	5	" 3, 1906	7	5,790	218·6
	6	" "	7	" 24, 1906	7	6,470	225·3
	14	" "	9	" 20, 1906	7	6,010	228·3
	8	Grade Ayrshire	6	" 7, 1906	7	5,690	232·0
12	5	Grade	6	" 21, 1906	6	3,760	123·0
	13	"	5	April 16, 1906	6	3,630	129·3
	15	"	5	May 2, 1906	6	4,550	132·9
	14	"	6	" 1, 1906	6	3,730	138·1
	12	"	5	April 20, 1906	6	4,490	153·1
	11	"	12	" 24, 1906	6	4,922	174·1
	10	"	7	" 26, 1906	6	6,380	240·8
	6	"	11	March 9, 1906	7	4,290	146·0
	8	"	5	" 20, 1906	7	4,860	173·4
	9	"	4	" 19, 1906	7	4,840	174·6
	7	"	7	" 6, 1906	7	5,580	195·5
	1	"	10	" 19, 1906	7	5,730	200·0
	4	"	11	" 26, 1906	7	5,500	203·6
	2	"	9	" 8, 1906	7	6,060	221·4
	3	"	9	" 22, 1906	7	5,390	240·8
13	3	Grade Holstein	3	March, 1906	4	2,640	85·5
	9	" "	3	" 1906	4	2,725	95·9
	7	" "	7	" 1906	4	3,265	97·7
	2	" "	2½	" 1906	4	3,260	109·0
	1	Grade Ayrshire	7	" 1906	4	3,590	103·5
	8	Grade Holstein	5	" 1906	4	3,270	107·4
	5	Grade Ayrshire	3	" 1906	4	3,280	109·2
	4	Grade	8	" 1906	4	3,760	120·3
	10	"	7	" 1906	4	3,385	123·9
14	3	Durham	14	July 22, 1906	4	3,785	143·7
	5				5	3,145	99·7
	10	Holstein	3	October, 1905	6	2,910	89·9
	17	"	8	March, 1905	6	3,725	110·6
	13	"	6	May 11, 1906	6	5,190	219·8
	18	Ayrshire	8	" 15, 1906	6	7,705	268·4
	4	Durham	4	April 21, 1906	7	5,555	188·8
	6	Holstein	6	" 18, 1906	7	6,440	188·9
	12	"	6	" 25, 1906	7	7,387	263·0
	9	"	3	" 13, 1906	8	5,459	182·2
	14	"	8	" 13, 1906	8	7,273	211·8
	7	"	6	March 30, 1906	8	7,365	220·8
	1	"	3	" 12, 1906	8	6,735	228·9
	2	Ayrshire-Holstein	9	February 26, 1906	8	8,000	267·3
	15	Holstein	9	March 26, 1906	8	10,070	273·5
	16	Durham	7	" 22, 1906	8	7,945	279·3
	11	Holstein	13	April 2, 1906	8	7,195	285·0
	8	"	10	March 24, 1906	8	9,600	327·3

TABLE XII.—TOTAL PRODUCTION OF INDIVIDUAL COWS, NORTH OXFORD, ONT.
—Concluded.

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months Tested.	Milk.	Fat.
						Lbs.	Lbs.
15	2	"Scrub"	9	March 27, 1906	6	3,840	123·5
	3	Ayrshire	7	" 24, 1906	6	4,380	152·6
	7	Grade, Jersey-Ayrshire	9	April, 1906	7	5,730	198·0
	4	Holstein-Jersey	4	" 6, 1906	8	4,835	159·5
	5	Holstein	2	" 7, 1906	9	4,690	147·3
	1	Ayrshire	8	March 25, 1906	9	5,595	188·9
	6	Guernsey	8	April 7, 1906	9	6,885	244·6
16	13	Gr. Durham		" 25, 1906	5	4,340	162·2
	17	Gr. Holstein		May 2, 1906	5	4,870	173·3
	19	Registered Holstein	5	March 27, 1906	5	6,750	224·2
	7	Gr. Durham	4	April 26, 1906	6	4,616	147·1
	8	"	4	" 23, 1906	6	5,390	199·1
	15	"	2	March 19, 1906	7	3,910	130·3
	18	Registered Holstein	5	April 2, 1906	7	5,710	153·3
	16	Gr. Holstein	2	March 26, 1906	7	4,340	158·7
	3	Gr. Durham	10	" 20, 1906	7	5,430	158·9
	12	"	7	" 24, 1906	7	5,620	164·3
	6	Gr. Holstein	14	April 3, 1906	7	4,930	166·9
	14	"	4	March 21, 1906	7	5,050	167·2
	10	Gr. Durham	5	April 17, 1906	7	5,250	167·3
	9	"	5	March 20, 1906	7	5,130	170·8
	1	Durham	5	" 20, 1906	7	6,020	192·8
	11	Gr. Durham	5	" 22, 1906	7	5,590	193·1
	5	"	15	" 26, 1906	7	6,240	194·6
	4	Gr. Holstein	11	" 21, 1906	7	5,930	202·3
	2	Gr. Durham	10	" 21, 1906	7	5,580	209·1
17	9	Gr. Holstein	12		4	3,385	102·1
	11	Gr. Jersey	6		4	2,945	109·8
	8	Gr. Holstein	12		4	3,600	113·8
	10	Gr. Durham	3		5	2,595	82·9
	3	"	2		5	2,655	88·2
	4	"	2		5	2,700	88·8
	17	Gr. Holstein	3		5	2,730	94·9
	18	"	3		5	2,980	98·0
	12	Gr. Jersey	6		5	3,585	120·4
	14	Gr. Holstein	7		5	3,860	121·2
	15	"	7		5	4,310	123·7
	13	"	7		5	3,735	130·8
	7	"	7		5	4,780	134·5
	16	Gr. Durham	6		5	3,980	136·5
	6	Gr. Ayshire	13		5	5,005	142·1
18	2	Gr. Holstein	13	July 18, 1906	4	4,279	129·8
	12	Gr. Durham	3	April 12, 1906	6	2,440	78·4
	8	"	15	June 5, 1906	6	2,744	89·9
	20	Gr. Jersey-Durham	2	" 12, 1906	6	2,780	102·9
	19	Gr. Durham-Holstein	2	April 19, 1906	7	2,285	70·6
	15	Gr. Holstein	3	May 4, 1906	7	3,600	119·5
	6	Gr. Durham	5	" 7, 1906	7	5,145	163·5
	18	Gr. Holstein	2	April 19, 1906	8	4,135	128·2
	14	"	3	" 6, 1906	8	4,380	137·7
	13	"	3	" 12, 1906	8	4,625	149·3
	4	"	5	" 1, 1906	8	5,090	151·7
	7	Gr. Durham	6	" 15, 1906	8	4,305	159·7
	10	"	9	January 3, 1906	8	4,625	161·8
	17	Guernsey	7	March 27, 1906	8	4,565	170·2
	3	Gr. Holstein	5	" 18, 1906	8	5,670	178·0
	9	Gr. Jersey	7	" 28, 1906	8	5,305	188·3
	5	Gr. Holstein	6	" 31, 1906	8	6,710	202·9
	11	"	4	April 19, 1906	8	6,160	204·4

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TABLE XIII.—SHRINKAGE IN MILK; TWO HERDS: NORTH OXFORD, ONT.

Herd A, 16 cows, Average Yield of Milk. lb.	1906.	Herd B, 15 cows, Average Yield of Milk. lb.
1,024	June	831
842	July	865
663	August	606
631	September	703
Total 3,160		Total 3,005
Shrinkage 38 %	Four Months	Shrinkage 15 %

Table XIII. illustrates in a striking manner the difference in shrinkage of milk between two herds in the North Oxford association. In herd A the September average yield was 38 per cent less than the June yield of milk, but in herd B the shrinkage was only 15 per cent. If in herd A the shrinkage had been only 15 per cent the owner would have had 3,840 pounds of milk more from the same cows *in September alone*, or nearly $38 more income. The owner of herd A admits that his cows did not receive as good attention or as much feed as usual. Neglect is costly. The owner of herd B states: 'We are careful to milk regularly at the same times every day, letting nothing interfere with milking. We fed a little oat chop all through the season until the corn was ready. We are generally the first to stable the cows in the fall and the last to turn out in the spring.' Such careful attention pays well.

TABLE XIV.—AVERAGE YIELDS OF 30 DAY PERIODS, COWANSVILLE, QUE., 1906.

30 Days ending.	Total number of Cows.	Average. Pounds of Milk.	Test.	Pounds of Fat.
Jan.	36	520	4·1	21·6
Feb.	60	524	4·1	21·8
Mar.	104	563	3·7	21·3
April 23	261	561	3·4	19·6
May 22	373	566	3·6	20·9
June 22	414	646	3·7	24·4
July 22	391	582	3·8	22·5
Aug. 23	400	468	4·0	19·1
Sept. 21	311	421	4·2	17·8
Oct. 26	205	383	4·3	16·5
Nov. 25	158	305	4·6	14·3
Dec. 27	96	335	4·9	16·5

Cowansville, Que.

The testing by the Department has been available for the full 12 months at every centre where an association was organized. In the vicinity of Cowansville are some farmers who ship cream daily all winter to Montreal, 57 miles distant. Thus, with a fair proportion of cows coming in fresh through the winter months, it might reasonably be expected that a liberal advantage would be taken of the opportunity for free testing. A fair number of men sent samples for eight and nine months, only a few for ten, eleven and twelve months. It is hoped that as the value of this systematic weighing and testing becomes more apparent to dairy farmers, a greatly increased number of samples will be sent in.

Looking at the records of milk produced in 9 months, it is found that the highest yield in herd 4 is from the 4-year-old cow No. 9, giving 4,910 pounds, while in herd 13 the 7-year-old cow No. 2 gave 6,960 pounds, or 2,050 pounds more. In herd 6 is a 5-year-old cow giving only 3,335 pounds of milk in the 9 months, throwing into strong relief the fact that the 5 cows in herd 13, milking 9 months, average 6,696 pounds each, or more than double.

For the same period of 9 months, the contrast in yield of fat is still greater. Herd 13 is still easily ahead, the production running from 226 to 262 pounds of fat per cow; but in others it runs no higher than 146 pounds as the best yield of any one cow in the herd, and drops as low as 123 pounds from a 5-year-old-cow. Amongst those milking 10 and 11 months, herds 13, 28 and 31 have some good individual yields of 236, 243 and 203 pounds of fat, while herd 27 has a record breaker in the 6-year-old half Jersey cow No. 4 giving 8,830 pounds of milk containing 400·4 pounds of fat. Such gratifying amounts are the result of definite breeding for a purpose and judicious feeding, as opposed to random methods.

The records of herd 19 furnish a telling illustration of the difference in yield from animals in the same herd. In one month there was a difference between 2 animals of 386 pounds of milk and 12 pounds of fat, and in 10 herds the difference runs over 200 pounds of milk. It is not simply the 2-year-old heifers or farrow cows that are responsible for the low yields. Frequently the 5, 6 and 8-year-olds, or over, are the defaulters. In herd 20 it may be noticed that the 2-year-old heifer No. 14 is ahead, in the matter of fat production, of 4 others older than herself, all freshening in the spring of 1906. This points again to the individuality of an animal and the necessity for its study.

In herd 4, cow No. 8, a 4-year-old, gives 210·1 pounds of fat in 8 months; but cow No. 4, 8 years old, gives only 139·9 pounds in 9 months. Similarly, in herd 6 notice 154·1 pounds of fat in 8 months and only 123·4 pounds in 9 months.

In herd 3 the five cows tested 7 months give a total yield of 13,012 pounds of milk; but in herd 12 five cows in 7 months have to their credit a production of 18,192 pounds.

TABLE XV.—TOTAL PRODUCTION OF INDIVIDUAL COWS, COWANSVILLE, QUE.

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months tested.	Milk.	Fat.
						Lbs.	Lbs.
3	1	'Scrub'		March 2, 1906..	5	1,750	61·7
	5	"		April 22, 1906..	5	2,350	85·5
	6	"		May 13, 1906..	6	2,495	85·8
	8	Grade Jersey	4	April 25, 1906..	6	2,375	95 5
	7	Grade Guernsey	4	" 20, 1906..	7	1,767	66·1
	10	'Scrub'		June 1, 1906..	7	2,755	99·5
	2	"		April 15, 1906..	7	2,850	105·7
	9	"		" 25, 1906..	7	2,265	110·4
	4	"		" 24, 1906..	7	3,375	124·0
	3	"		" 15, 1906..	8	3,020	117 5
4	14	Grade	2	" 5, 1906..	7	2,630	106·1
	15	"	2	" 7, 1906..	7	2,730	110·9
	6	"	9	" 6, 1906.	8	4,860	166·2
	7	"	7	" 12, 1906..	8	4,720	194·9
	8	"	4	" 25, 1906..	8	5,331	210·1
	13	"	3	March 10, 1906..	9	3,920	135·3
	4	"	8	" 13, 1906..	9	3,745	139·9
	12	"	3	" 16, 1906..	9	4,080	146·4
	11	"	4	" 9, 1906..	9	3,858	156·1
	1	"	5	" 12, 1906..	9	4,260	160·4
	10	"	4	" 20, 1906..	9	4,250	163·1
	5	"	8	" 16, 1906 .	9	4,690	164·8
	2	"	9	" 6, 1906..	9	4,874	178·6
	3	"	11	Feb. 20, 1906..	9	4,850	186 0
	9	"	4	" 26, 1906..	9	4,910	193·5
6	2	"	14	April 19, 1906..	6	2,130	80·6
	7	Grade Jersey	4	May 24, 1906..	7	2,432	104·1
	4	Grade Durham	9	" 19, 1906 .	7	4,090	146·9
	8	"	4	March 8, 1906..	8	2,850	110·2
	9	Grade Jersey	4	" 19, 1906..	8	2,920	116·7

TABLE XV.—TOTAL PRODUCTION OF INDIVIDUAL COWS, COWANSVILLE, QUE.
—*Continued.*

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months tested.	Milk.	Fat.
						Lbs.	Lbs.
6	6	Grade Durham	8	March 17, 1906..	8	4,310	154·1
	1	"	5	" 19, 1906..	9	3,335	123·4
	5	"	9	" 17, 1906..	9	3,652	143·6
	3	Grade Jersey	5	April 2, 1906..	9	3,902	146·4
7	4	Grade Ayrshire	4	July 20, 1906..	5	2,575	97·0
	9	Grade Durham	8	April 26, 1906..	6	3,760	119·2
	5	Grade Jersey	14	March 2, 1906..	6	3,055	128·1
	6	Grade Holstein	14	May 15, 1906..	7	3,705	138·4
	3	Grade Ayrshire	9	Feb. 23, 1906..	7	4,570	161·2
	10	Grade Durham	8	April 28, 1906..	8	4,210	159·3
	7	Grade Ayrshire	6	" 7, 1906..	8	4,417	181·9
	2	"	2	Feb. 28, 1906..	9	2,900	114·1
	1	"	3	March 26, 1906..	9	3,280	162·2
	8	"	6	" 22, 1906..	9	4,470	181·0
8	9	Ayrshire	7	May 9, 1906..	7	3,880	146·4
	11	"	6	June 14, 1906..	7	4,410	171·8
	8	"	2	April 1, 1906..	9	2,380	110·6
	13	Holstein	3	" 17, 1906..	9	3,058	130·9
	14	Ayrshire	5	March 29, 1906..	9	4,010	156·6
	5	"	13	" 26, 1906..	9	3,920	158·0
	1	"	5	April 2, 1906..	9	5,410	194·7
	4	"	13	" 5, 1906..	9	5,460	208·8
	12	"	4	March 10, 1906..	10	4,812	187·0
	3	"	12	May 22, 1906..	10	4,950	190·7
	6	"	8	March 16, 1906..	10	5,205	199·2
	10	"	7	" 17, 1906..	10	5,098	202·9
9	14	Grade Guernsey	2	July 10, 1906..	6	2,435	106·8
	12	" "	4	June 25, 1906..	6	3,640	161·2
	13	" "	9	" 30, 1906..	6	4,135	193·0
	11	" "	6	" 6, 1906..	7	3,530	142·6
	10	" "	3	" 5, 1906..	7	3,690	146·9
	9	" "	3	May 10, 1906..	8	4,545	182·9
	7	" "	2	March 27, 1906..	9	3,110	134·7
	3	" "	3	" 18, 1906..	9	3,920	135·2
	16	" "	9	Jan. 1, 1906..	9	4,135	167·6
	5	" "	4	March 27, 1906..	9	5,155	186·2
	1	" "	6	March 18, 1906..	9	5,120	188·5
	8	" "	9	April 5, 1906..	9	5,760	196·1
	2	" "	9	March 15, 1906..	9	4,925	212·0
	6	" "	8	Feb. 23, 1906..	9	5,160	221·4
	4	" "	6	March 18, 1906..	9	5,095	223·5
10	25		4	May 10, 1906..	4	2,470	71·9
	22		6	" 10, 1906..	4	2,418	79·9
	15		10	April 16, 1906..	4	2,395	90·1
	20		2	" 9, 1906..	5	1,810	72·9
	19		7	" 1, 1906..	5	2,595	108·2
	1	Grade Holstein	7	March 14, 1906..	5	3,010	110·4
	12		4	" 20, 1906..	6	2,390	86·2
	18	Grade Ayrshire	8	" 20, 1906..	6	2,705	95·3
	17		6	" 21, 1906..	6	3,010	103·0
	8	Grade Holstein	5	" 13, 1906..	6	3,095	104·1
	11		12	" 4, 1906..	6	3,085	110·7
	4	Grade Jersey	5	Feb. 26, 1906..	6	2,720	116·0
	14	" Ayrshire	9	March 14, 1906..	6	3,190	116·6
	16	" Jersey	4	" 16, 1906..	6	3,000	119·9
	6	" Holstein	9	Feb. 18, 1906..	6	3,310	120·8
	9	" Ayrshire	9	March 9, 1906..	6	3,315	120·8
	24		7	May 14, 1906..	6	3,335	123·2
	7	Grade Ayrshire	5	March 21, 1906..	6	3,460	128·3
	10		7	" 13, 1906..	6	3,545	128·8
	5	Grade Ayrshire	7	" 1, 1906..	6	4,070	140·0
	13	" Jersey	5	Feb. 20, 1906..	6	3,160	145·6

TABLE XV.—TOTAL PRODUCTION OF INDIVIDUAL COWS, COWANSVILLE, QUE.
—Continued.

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months Tested.	Milk.	Fat.
						Lbs.	Lbs.
12	11			March 27, 1906..	4	1,570	43·1
	4			" 19, 1906..	4	1,270	51·6
	26			May 10, 1906..	5	3,085	111·9
	3			April 21, 1906..	5	2,980	116·1
	8			May 13, 1906..	5	3,060	123·3
	19			" 1, 1906..	5	3,885	134·3
	35			April 5, 1906..	6	2,850	114·7
	12				6	2,940	118·9
	33			March 29, 1906..	6	3,230	122·1
	21			April 21, 1906..	6	3,350	125·5
	30			March 28, 1906..	6	3,485	127·9
	7			April 10, 1906..	7	3,528	114·6
	22			March 26, 1906..	7	3,090	116·0
	5				7	3,300	118·4
	13			Feb. 1, 1906..	7	2,985	119·7
	16			April 5, 1906..	7	4,074	131·6
	6			March 28, 1906..	7	3,510	133·3
	31				7	4,045	133·5
	29			April 2, 1906..	7	3,607	135·9
	27		9	March 28, 1906..	7	3,235	138·2
	23			April 11, 1906..	7	3,550	142·8
	28			" 5, 1906..	7	3,755	155·1
	34			March 22, 1906..	8	3,427	131·9
	20			Nov. 21, 1905..	8	3,875	146·7
	15			Feb. 1, 1906..	9	3,535	127·1
	18			" 1, 1906..	9	3,985	131·6
13	11	Jersey	12	March 1905..	4	980	54·8
	25	Ayrshire	4	April 1905..	5	3,120	111·1
	23	"	11	May 1906..	5	3,820	135·9
	13	"	7	Dec. 1905..	6	3,820	127·4
	19	"	2	May 1906..	7	2,450	93·0
	15	Jersey	3	April 1906..	7	2,970	131·4
	21	"	3	" 1906..	7	2,900	133·3
	27	Ayrshire	5	May 1906..	7	3,450	146·1
	7	Grade Ayrshire	4	" 1906..	7	3,820	158·4
	14	Ayrshire	12	Nov. 1905..	7	5,410	174·8
	5	"	7	May 1906..	7	5,540	213·5
	9	Grade Ayrshire	6	Sept. 1905..	8	4,500	177·5
	17	Ayrshire	10	April 1906..	8	5,960	185·8
	16	Jersey	3	" 1906..	8	4,440	186·6
	8	Grade Ayrshire	6	June 1905..	8	4,650	192·3
	1	Grade Jersey	14	Dec. 1905..	8	4,200	212·9
	10	Ayrshire	8	March 19, 1906..	8	4,950	214·7
	4	Grade Ayrshire	6	June 1905..	8	5,040	214·8
	20	Ayrshire	7	Feb. 1906..	8	6,240	248·7
	2	Grade Ayrshire	7	" 1906..	9	6,960	226·4
	12	Ayrshire	10	Dec. 1905..	9	6,940	230·8
	22	"	7	April 1906..	9	6,490	237·4
	3	Grade Ayrshire	7	Nov. 1905..	9	6,820	259·1
	24	Ayrshire	10	May 1906..	9	6,270	262·0
	18	"	6	March 1906..	10	5,900	236·0
	26	"	6	April 1906..	10	6,320	241·2
	6	Grade Ayrshire	7	Oct. 1905..	11	6,260	263·0
14	17		2	June 5, 1906..	4	2,130	78·7
	15	Grade Ayrshire	9	Farrow	4	1,880	79·4
	16	"	8	June 5, 1906..	4	2,660	100·8
	14	"	2	May 15, 1906..	5	1,834	71·0
	10	"	3	April 30, 1906..	5	2,466	82·5
	11	"	3	" 30, 1906..	5	2,355	85·2
	8	"	3	" 27, 1906..	5	2,284	87·9
	12	"	3	May 3, 1906..	5	2,390	91·3

TABLE XV.—TOTAL PRODUCTION OF INDIVIDUAL COWS, COWANSVILLE, QUE.
—*Continued.*

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months Tested.	Milk.	Fat.
						Lbs.	Lbs.
14	6	Grade Ayrshire	5	April 22, 1906..	5	2,660	103·3
	7	"	3	" 25, 1906..	5	2,336	103·6
	5	Grade Jersey	4	" 20, 1906..	5	2,620	107·6
	9	"	5	" 28, 1906..	5	2,525	110·4
	13	Grade Ayrshire	9	May 5, 1906..	5	3,552	131·9
	3	Ayrshire	8	Feb. 21, 1906..	6	2,950	108·6
	4	Grade Ayrshire	3	April 12, 1906..	6	2,290	112·4
	1	Grade Holstein	8	" 8, 1906..	6	4,965	142·1
	2	"	9	" 6, 1906..	6	4,527	166·8
16	14	Grade Ayrshire	3	March 19, 1905..	4	1,050	42·1
	16	Grade Holstein	6	Slinker.	4	1,355	47·6
	6	Grade Ayrshire	7	"	4	1,530	55·1
	3	"	4	Farrow.	4	1,255	56·4
	2	"	8	March 10, 1906 .	4	1,355	56·8
	25	"	9	" 24, 1906..	4	1,645	57·2
	30	"	9	" 26, 1906..	4	1,715	57 2
	4	"	6	" 1905..	4	1,475	58·0
	33	Grade Holstein	7	March 20, 1906..	4	1,740	61·3
	40	Grade Ayrshire	7	April 1905..	4	1,690	62·9
	1	"	7	" 2, 1905..	4	1,595	64·0
	23	Grade Holstein	7	March 22, 1906..	4	1,960	64 1
	29	Grade Durham	6	April 14, 1906..	4	1,870	64·6
	5	Grade Holstein	6	" 1906..	4	1,695	64·8
	32	Grade Ayrshire	8	" 4, 1906..	4	1,860	65·0
	22	"	8	March 11, 1906..	4	1,710	65·8
	35	Grade Durham	4	" 17, 1906..	4	1,770	66·9
	31	"	6	March 10, 1906..	4	1,785	67·9
	21	Grade Holstein	4	" 17, 1906..	4	1,630	69·3
	24	"	8	" 3, 1906..	4	2,185	70·8
	27	Grade Ayrshire	8	April 6, 1906..	4	2,055	71·3
	34	Grade Durham	6	" 2, 1906 .	4	2,205	71·5
	9	"	8	" 7, 1906 .	4	2,155	72·6
	8	Grade Holstein	9	March 14, 1905..	4	1,905	74·4
	36	Grade Ayrshire	5	April 10, 1906..	4	2,000	74·7
	7	Grade Holstein	8	March 10, 1906..	4	2,345	78·1
	10	"	9	" 20, 1906..	4	1,935	78·7
	28	"	7	" 30, 1906..	4	2,175	78·8
	26	Grade Ayrshire	7	" 26, 1906..	4	2,345	79·3
	13	Grade Holstein	6	Slinker.	4	2,470	79·5
	37	Grade Ayrshire	6	April 17, 1906..	4	2,020	82 1
	39	"	5	March 18, 1906.	4	2,130	82·1
	11	"	9	April 16, 1906..	4	2,620	82·5
	38	"	6	" 16, 1906..	4	2,160	89·0
	15	"	6	" 3, 1906..	4	2,130	98·4
19	18				5	2,250	80·4
	1				7	1,660	67·3
	17				7	2,370	85·4
	5				7	3,120	105·1
	3				7	2,890	112·4
	2				7	3,100	115·1
	6				7	2,780	116·9
	15				7	3,840	125·3
	13				7	3,400	125·9
	4				7	3,030	128·5
	8				7	2,660	139·9
	16				7	3,550	139·9
	14				7	3,910	149·1
	7				7	3,240	150·3
	12				7	4,260	151·6
	9				7	3,420	153·0
	10				7	3,770	158·4
	11				7	4,040	163·2

TABLE XV.—TOTAL PRODUCTION OF INDIVIDUAL COWS, COWANSVILLE, QUE.
—*Continued.*

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months tested.	Milk.	Fat.
						Lbs.	Lbs.
20	18	Grade Jersey	7	June 9, 1906..	4	2,192	103·1
	23	Durham	7	Feb. 12, 1906..	5	1,614	58·6
	11	Jersey	4	April 22, 1906..	5	2,559	105·9
	12	Grade Jersey	4	" 29, 1906..	5	2,670	107·7
	3	"	3	" 28, 1906..	5	2,260	111·3
	13	"	15	March 11, 1906 .	6	2,215	75·4
	16	Jersey	2	" 1906..	6	1,780	80·3
	22	Ayrshire	3	" 1906..	6	2,120	96·8
	10	Grade Ayrshire	6	" 11, 1906..	6	2,870	105·9
	15	Ayrshire	8	April 5, 1906..	6	2,508	106·2
	17	Grade Ayrshire	6	" 1906..	6	2,910	106·2
	28	Jersey	6	March 1906..	6	2,840	118·4
	25	Ayrshire	9	April 5, 1906..	6	3,150	129·1
	30	Ayrshire-Jersey	3	May 1905..	7	1,510	59·8
	21	Ayrshire-Durham	5	" 1905..	7	1,670	71·1
	20	Grade Ayshire	3	March 11, 1906..	7	2,640	98·7
	4	Pure Jersey	7	Feb. 7, 1906..	7	2,250	114·9
	26	Grade Jersey	15	May 8, 1906..	7	2,891	118·1
	24	Grade Devon	7	March 2, 1906..	7	3,321	121·1
	14	Grade Jersey	2	" 9, 1906..	7	2,666	122·0
	6	Grade Ayrshire	6	Nov. 30, 1905..	7	3,110	131·2
	27	Grade Jersey	4	March 8, 1906..	7	3,015	132·6
	29	Grade Ayrshire	6	Feb. 26, 1906..	7	3,130	133·5
	8	Grade Jersey	8	March 1, 1906..	7	3,320	147·7
	19	"	6	Feb. 15, 1906..	8	2,608	105·6
	1	¾ Jersey	4	Nov. 22, 1905..	8	2,710	124·0
	2	Grade Jersey	4	Jan. 19, 1906..	8	2,870	133·1
	5	"	9	Dec. 27, 1905..	9	3,650	188·3
21	14		4	May 12, 1906..	5	2,060	83·1
	15		12	" 17, 1906..	5	2,580	99·6
	16		9	" 21, 1906..	5	2,695	106·9
	11	Grade	2	April 13, 1906..	6	1,825	73·9
	13	"	10	May 3, 1906.	6	2,930	116·2
	10	"	6	April 10, 1906..	6	2,850	117·4
	12	"	7	" 27, 1906..	6	3,320	134·1
	4	Grade Jersey	9	March 9, 1906..	7	2,585	101·8
	9	Grade	10	" 22, 1906..	7	3,000	114·7
	8	"	10	" 21, 1906..	7	3,160	133 1
	6	Grade Jersey	8	" 16, 1906..	8	2,955	117·5
	2	Grade	5	" 1, 1906..	8	3,175	119·3
	5	Grade Jersey	3	" 21, 1906..	8	3,185	130·5
	1	Grade Holstein-Jersey	9	April .., 1905..	8	3,310	135·4
	7	Grade	5	March 16, 1906..	8	3,880	162 0
	3	"	6	" 7, 1906..	8	4,440	164·1
23	8				4	2,020	60·8
	12		3	March 9, 1906..	4	2,080	73·9
	14				4	2,290	74·8
	16			March 11, 1906..	4	2,216	77·4
	9			" 10, 1906..	4	2,140	84 0
	13			" 8, 1906..	4	2,752	84 1
	18			" 7, 1906..	4	2,467	84 7
	7			" 10, 1906..	4	2,492	86·4
	5	Ayrshire	3	Jan. 1, 1906..	6	3,098	99·6
	4	"	7	Dec. 10, 1905 .	6	3,560	118·6
25	11	Grade Holstein	2	April 19, 1906..	5	2,640	87·7
	10	Grade Jersey	3	" 14, 1906..	6	2,835	104 6
	12	Grade Ayrshire	5	" 24, 1906..	6	3,275	134·5
	8	Grade Durham	3	March 30, 1906..	7	3,355	101·7
	9	Grade Jersey	3	April 1, 1906..	7	3,550	123·6
	6	Grade Holstein	5	March 17, 1906.	7	4,200	124·7

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TABLE XV.—TOTAL PRODUCTION OF INDIVIDUAL COWS, COWANSVILLE, QUE.
—*Continued.*

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months tested.	Milk.	Fat.
						Lbs.	Lbs.
25	7	Grade Jersey	7	" 23, 1906	7	3,710	153·4
	4	"	4	Feb. 2, 1906	8	4,530	153·4
	2	"	6	Dec. 14, 1905	9	3,500	158·2
	1	"	10	" 6, 1905	9	4,350	167·6
	3	Grade Holstein	9	Jan. 24, 1906	9	6,945	191·1
27	1	Grade	9	May 2, 1905	7	3,685	154·4
	18	½ Jersey	4	Feb. 26, 1906	8	5,210	222·0
	12	"	6	" 1, 1906	8	5,270	261·5
	16	"	2	April 15, 1906	9	4,050	174·5
	13	Jersey	2	March 31, 1906	9	4,505	206·3
	21	"	3	May 9, 1905 Nov. 4, 1906	10	3,935	222·8
	9	½ Jersey	7	Feb. 1, 1906	10	6,120	264·1
	2	Half Jersey	10	March 17, 1905 " 21, 1906	10	8,095	375.7
	4	"	6	Feb. 26, 1906	10	8,830	400·4
	6	Grade Jersey	3	April 22, 1905 Sept. 21, 1906	11	4,370	210·0
	19	Jersey	4	" 5, 1905 Oct. 10, 1906	11	3,610	219·2
	14	Grade Jersey	5	Jan. 30, 1906	11	5,985	268·1
	3	"	5	Aug. 24, 1905 Oct. 21, 1906	11	5,090	276·5
	17	Jersey	4	April 14, 1905 Oct. 5, 1906	11	5,735	281·3
	15	"	4	April 7, 1905 Oct. 2, 1906	11	6,045	294·4
	11	Half Jersey	11	Dec. 17, 1905 Oct. 31, 1906	11	8,810	336·2
	8	Jersey	8	Jan. 15, 1906 Dec. 22, 1906	11	6,990	355·4
	5	Half Jersey	9	Nov. 15, 1905 Oct. 19, 1906	11	8,275	408·6
	10	Jersey	2	Nov. 1, 1905 Oct. 9, 1906	12	4,190	209·5
	20	Half Jersey	3	March 7, 1905 " 17, 1906	12	4,595	210·9
	22	"	5	Nov. 22, 1905	12	5,100	300·7
	7	"	7	Nov. 9, 1905 Oct. 22, 1906	12	5,620	305·8
28	12	Guernsey	3	Aug. 1, 1906	4	2,765	119·3
	2	"	8	March 3, 1905	5	1,450	55·1
	22	Ayrshire	3	Aug. 9, 1905	8	2,880	105·6
	9	Pure Guernsey	3	June 25, 1906	8	2,695	122·9
	15	Grade Durham	4	April 9, 1906	8	3,430	151·1
	6	Pure Guernsey	5	Feb. 19, 1905 June 10, 1906	8	3,560	155·3
	14	Guernsey	2	April 13, 1906	9	1,925	87·4
	13	"	2	" 19, 1906	9	2,648	120·8
	11	"	2	" 12, 1906	9	2,870	140·0
	5	"	9	March 23, 1906	9	3,490	152·1
	7	"	5	" 22, 1906	9	3,405	153·3
	20	French Grade	7	Feb. 18, 1906	9	4,755	177·1
	17	"	7	April 14, 1906	9	4,195	201·3
	10	Guernsey	4	March 25, 1905 April 6, 1906	10	3,565	166·9
	8	"	4	March 15, 1906	10	3,950	189·1
	21	'Scrub'	8	" 11, 1906	10	5,065	191·6
	18	French Grade	6	" 7, 1906	10	4,586	195·2
	23	Ayrshire	9	Feb. 25, 1905	10	6,125	243·1

TABLE XV.—TOTAL PRODUCTION OF INDIVIDUAL COWS, COWANSVILLE, QUE.
—Concluded.

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months tested.	Milk.	Fat.
						Lbs.	Lbs.
28	1	Guernsey	6	Aborted Dec., 1905	11	3,915	187·0
	19	French Grade	7	Aborted May, 1905	11	4,635	190·8
29	5				5	1,630	75·5
	6				5	2,400	88·8
	12				6	1,755	78·0
	8				6	1,865	85·8
	11				6	2,110	93·6
	10				6	2,730	104·9
	9				7	2,080	85·6
	3				7	2,400	102·4
	7				7	2,615	104·4
	4				7	2,020	106·1
	1				7	3,100	137·6
	2				7	3,425	139·2
31	4	Grade Holstein	5	Aug. 18, 1905.	5	2,140	69·9
	19	Grade Jersey	5	June 30, 1906..	6	2,580	120·6
	18	Grade Holstein	3	" 8, 1906..	7	3,500	125·3
	13	Grade Jersey	7	March 24, 1906.	7	4,020	160·4
	17	Grade Holstein	8	May 15, 1906..	8	4,416	155·1
	5	"	4	Aug. 23, 1905..	9	4,020	140·6
	16	Grade Jersey	7	April 7, 1906..	9	3,640	156·1
	3	Grade Holstein	5	Aug. 17, 1905..	9	4,240	163·4
	12	"	7	March 13, 1906..	9	5,290	190·5
	14	"	6	" 29, 1906..	9	4,700	192·3
	15	Grade Jersey	8	April 3, 1906..	9	5,290	207·0
	1	Grade Holstein	5	May 25, 1906..	10	4,564	161·6
	8	Reg. Holstein	3	Jan. 8, 1906..	10	5,430	162·3
	9	Grade Holstein	5	Feb. 8, 1906..	10	5,210	175·1
	11	Grade	11	March 7, 1906..	10	4,930	175·3
	10	Grade Holstein	5	Feb. 17, 1906..	10	5,220	179·7
	2	"	7	Aug. 16, 1905..	10	4,760	203·8
	6	"	6	Sept. 9, 1905..	11	3,870	185·5
32	23		5	March 29, 1906..	4	2,370	80·4
	21		4	" 22, 1906..	4	2,655	83·0
	20		4	" 22, 1906..	4	2,745	89·7
	22		6	" 25, 1906..	4	2,595	90·7
	18		10	" 22, 1906..	4	3,045	104·1
	16		10	" 17, 1906..	4	3,030	110·7
	19		7	" 22, 1906..	4	3,340	112·0
	17		8	" 22, 1906..	4	3,715	121·4
	24		10	April 5, 1906..	4	3,965	129·6
	2		6	Nov. 6, 1906..	5	2,995	98·9
	11		5	Feb. 26, 1906..	5	3,110	106·1
	10		5	" 25, 1906..	5	3,485	114·8
	15		7	March 14, 1906..	5	3,626	118·0
	12		8	" 2, 1906..	5	3,682	122·0
	3		8	Nov. 7, 1905..	5	3,220	125·9
	14		10	March 12, 1906..	5	3,970	130·0
	4		6	Nov. 8, 1905..	5	3,725	132·1
	9		4	Feb. 10, 1906..	5	3,885	132·7
	7		9	" 8, 1906..	5	3,685	133·0
	1		10	Nov. 6, 1905..	5	3,460	134·2
	6		10	Feb. 9, 1906..	5	3,620	137·9
	13		13	March 4, 1906..	5	4,493	153·0
	8		8	Feb. 17, 1906.	5	4,325	156·3
	5		7	Dec. 4, 1905..	5	4,675	165·7

The accompanying three pairs of illustrations of cows are photographs of six animals in three herds in the North Oxford Association, whose individual records are respectively the highest and lowest in each herd during the period tested. It will be interesting to study the appearance of each pair while comparing their yields of milk and butter fat.

These photographs were taken in May, 1907, as this report goes to press.

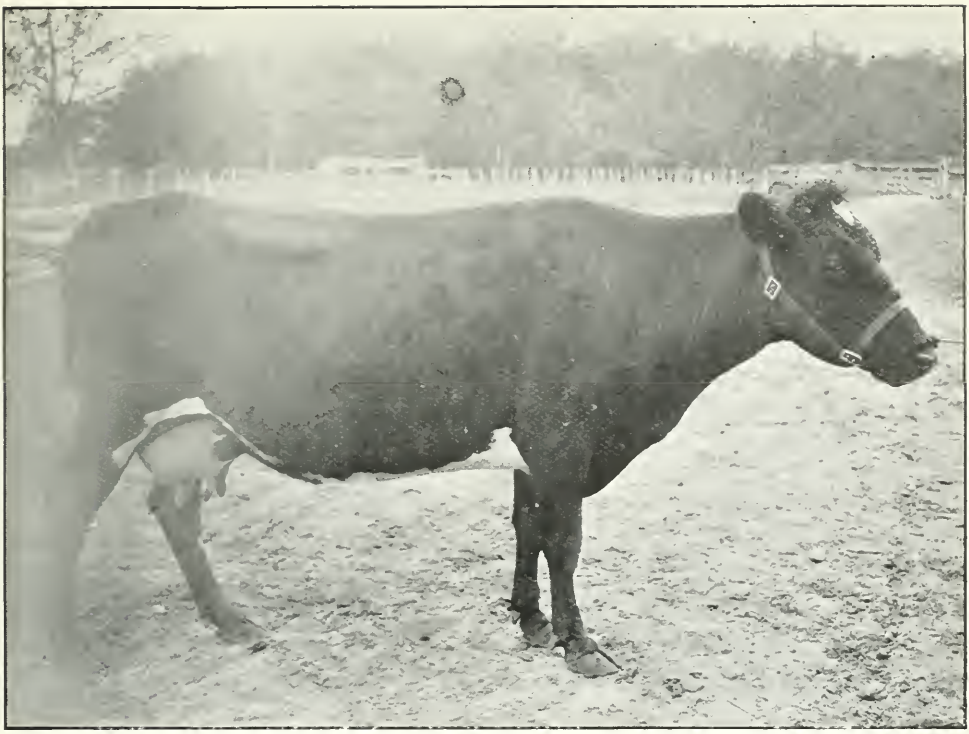

Fig I.—Cross-bred Ayrshire-Jersey Cow No. 9 in herd 10, North Oxford Association, calved March 25, age 4; yield 6,570 lbs. milk in 9 months, 262·2 lbs. fat.

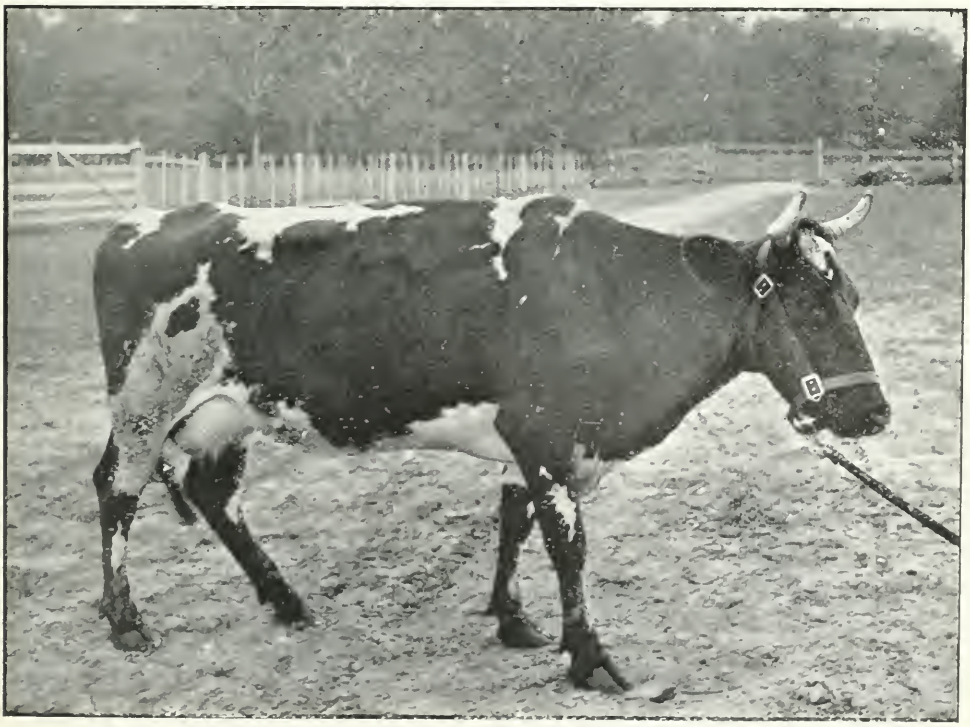

Fig II.—Grade Ayrshire Cow, No. 8, in herd 10, North Oxford Association, calved March 31, age 4; yield 4,590 lbs. milk in 9 months, 164·2 lbs. fat.

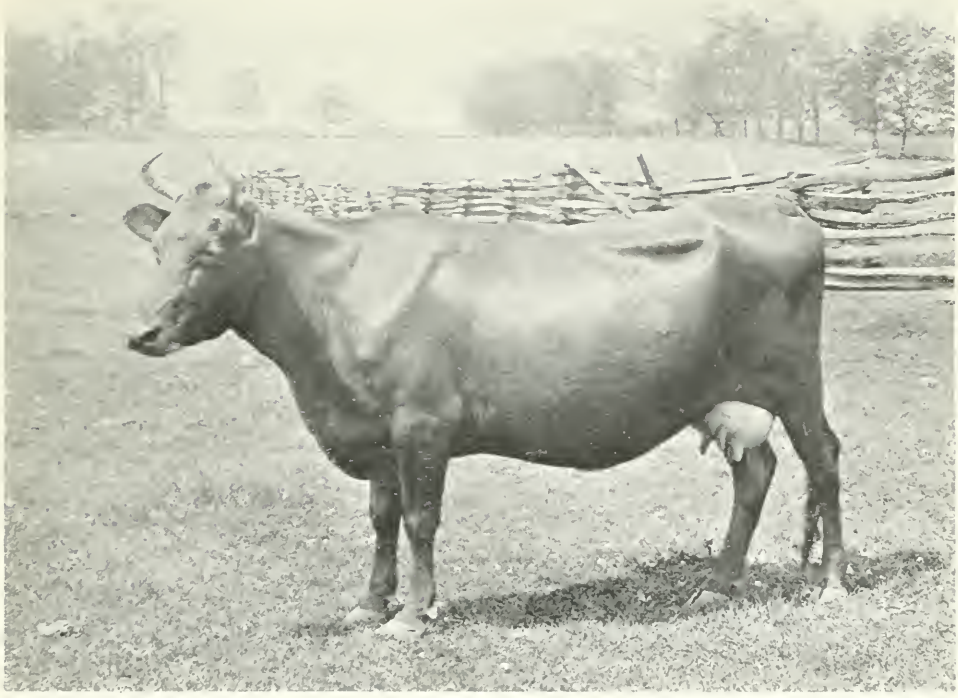

Fig. I.—Common grade. No. 3, in herd 12, North Oxford Association, calved March 22, age 9; yield 5,390 lbs. milk in 7 months, 240·8 lbs. fat.

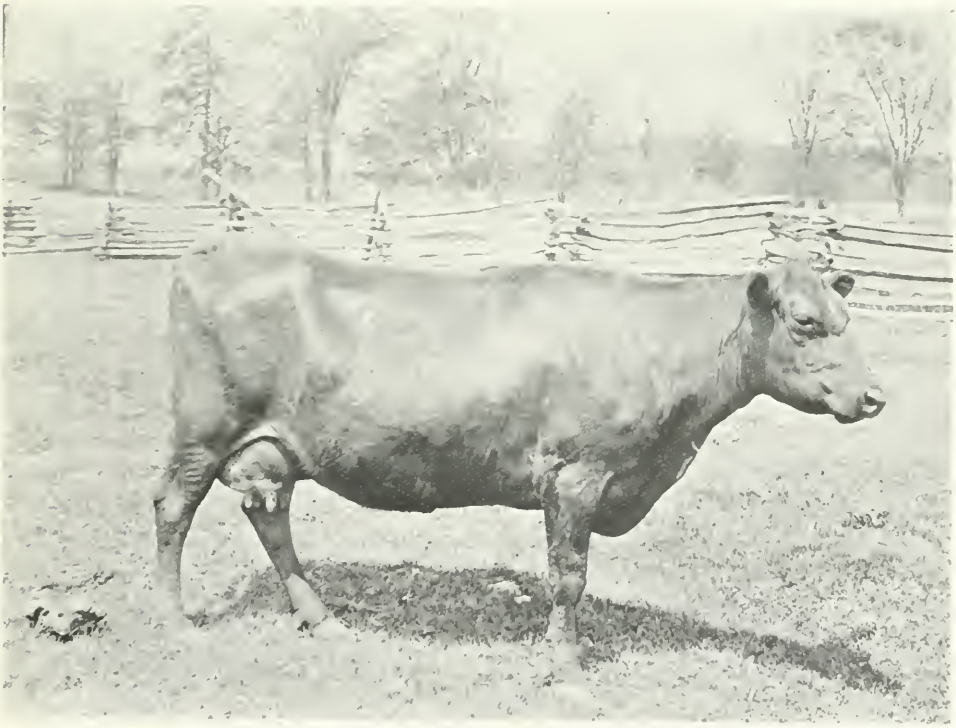

Fig. II.—Common grade cow, No. 6 in herd 12, North Oxford Association. Calved March 9, age 11; yield 4,290 lbs. milk in 7 months, 146 lbs. fat.

FIG I.—Holstein Cow No. 8, in herd 14, North Oxford Association, calved March 24, Age 10; yield 9660 lbs. milk in 8 months, 3273 lbs. fat.

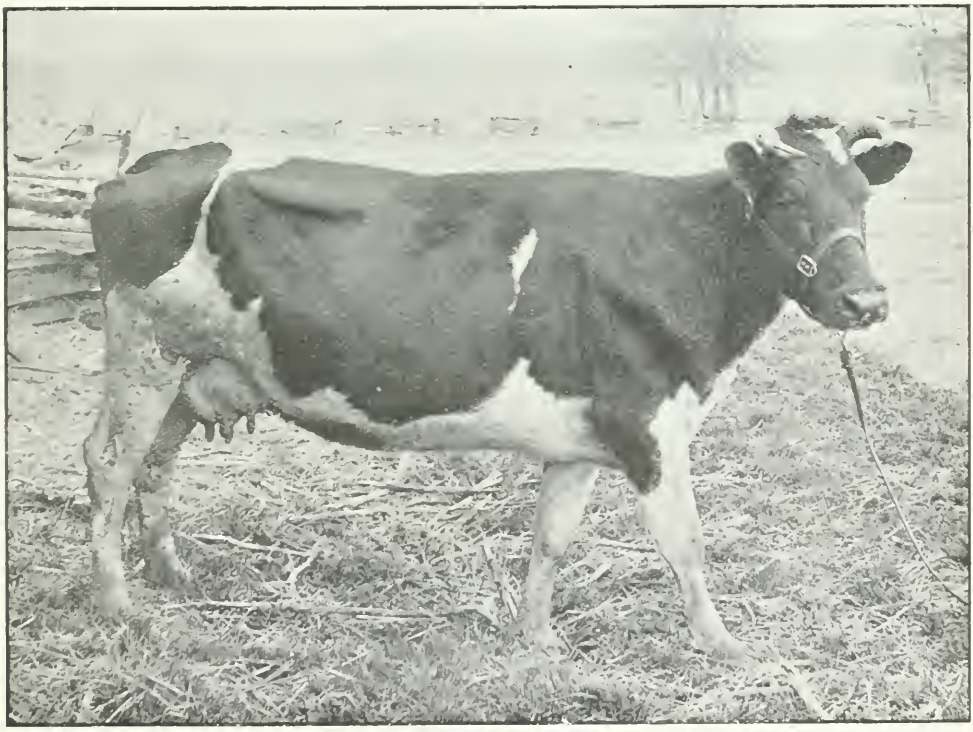

FIG II.—Holstein Cow No. 14, in herd 14, North Oxford Association, calved April 13, age 8; yield 7,273 lbs. milk in 8 months, 211 8 lbs. fat.

Holstein Cow, No. 25 in herd 2, North Oxford Association. Record as a two-year-old 11,155 lbs. milk, 379·2 lbs. fat. Value of milk $115.54.

TABLE XVI. ANNUAL YIELDS—2 HERDS OF TEN GRADE COWS EACH, COWANSVILLE, QUE.

—	Grade Holsteins.		—	Grade Jerseys	
	lbs. milk.	lbs. fat.		Lbs. milk.	Lbs. fat.
April	6,480	208·2	April	7,900	346·2
May	6,486	219·1	May	7,575	335·2
June	7,050	255·2	June	7,300	354·6
July	6,230	237·0	July	6,380	297·0
August	5,240	208·1	August	4,900	247·3
September	4,960	184·9	September	3,295	161·9
Total	36,446	1,312·5	Total	37,350	1,742·2
October	3,430	134·6	October	3,575	169·5
November	1,860	92·8	November	5,680	259·5
December	890	48·0	December	5,430	292·2
January			January	4,250	204·4
February	1,750	53·0	February	6,635	308·8
March	3,670	112·9	March	6,940	308·6
Total	11,600	441·3	Total	32,510	1,543·0

Paying by 100 lbs. milk.		*Paying by 100 lbs. milk.*	
Winter: 11,600 at $1.10	$127 60	Winter: 32,510 at $1.10	$357 61
Summer: 35,446 at 80c	291 57	Summer: 37,350 at 80c	298 80
Total	$419 17	Total	$656 41
Difference			**$237 24**
Paying by fat.		*Paying by fat.*	
Winter: 441 = 567 lbs. butter at 22c	$115 54	Winter: 1,543 lbs. = 1,775 lbs. butter at 22c.	$390 50
Summer: 1,312 lbs. = 1,509 lbs. butter at 20c.	301 80	Summer: 1,742 lbs. = 2,004 " 20c.	400 80
	$417 34		$791 30
Difference			**$373 96**

The object of the figures in Table XVI. is to compare the annual return from two herds of grade cows in the Cowansville association. These herds were selected because it was noticed that the total yield of milk from each lot of 10 cows for the first six months was so close, 36,446 pounds and 37,350 pounds.

The yield for the second six months is widely different, 11,600 against 32,510 pounds.

Assuming that the milk is paid for by weight and allowing $1.10 for winter and 80 cents per 100 pounds as the summer price, the herd of grade Jerseys earns $237.24 more than the other herd during the year.

Again, assuming that the milk is paid for according to its fat content, and allowing 115 pounds of butter to 100 pounds of fat, and valuing butter at 22 cents for the winter six months, and 20 cents per pound for the summer six months, there is *a net gain of $373.96 of the one herd over the other.*

Further, apart from the question of breed altogether, it should be noticed that the one man is evidently feeding and breeding for winter production when prices are highest. That it pays him well to so arrange matters is evidenced by the fact that the winter milk in the one case sells for $230.01 more than in the other; or the winter fat from the one herd brings in $274.96 more than the other. If any figures convey a lesson, surely these do.

TABLE XVII.—DIFFERENCE BETWEEN INDIVIDUAL COWS IN THE SAME HERDS, COWANSVILLE, QUE.

Herd Number.	Number of Months Yield.	Difference between Highest and Lowest Yields.		Age of Cow with Lowest Yield.
		Pounds of Milk.	Pounds of Fat.	
32	5	1,680	66·8	6
10	6	1,350	24·0	5
14	6	2,010	33·5	8
6	8	940	32·1	4
8	8	1,520	49·5	13
9	8	1,855	60·5	3
4	9	1,165	53·6	8
27	10	3,675	41·7	5

Table 17 emphasizes the point that the individuality of a cow must be considered in building up a profitable dairy herd. In 8 herds are shown the *differences* between the highest and lowest yields of milk and butter fat.

In herd 6 the best cow gave during 8 months 940 pounds of milk, containing 32·1 pounds of fat, *more* than the 4-year-old poorest cow. That difference, large enough as it is, is nearly doubled in herd 9, where the 3-year-old gives 60·5 pounds of fat less than the best cow.

In herd 27, the difference is 3,675 pounds of milk in ten months, while in herd 32 the difference is actually 66·8 pounds of fat in only 5 months. The indications, from the records of this association, are that there is plenty of room for judicious selection. For instance, in one herd a 4-year-old cow in 8 months gave 5,330 pounds of milk and 210 pounds of fat, but an 8-year-old in 9 months gave only 3,745 pounds of milk and 140 pounds of fat. Thus with one month's longer opportunity she gave 70 pounds of fat less than the other.

Similar differences occur in many other herds, and such sharp contrasts indicate how imperative it is to test for fat and to weed out the poor cows.

TABLE XVIII.—AVERAGE YIELDS OF 30 DAY PERIODS, 1906, MANSONVILLE QUE

30 Days ending.	Total number of Cows.	Average.		
		Pounds of Milk.	Test.	Pounds of Fat.
May 27	115	479	3·9	18·3
June 27	262	589	3·8	22·6
July 27	299	555	4·0	22·5
August 27	251	492	4·1	19·7
September 28	80	435	4·3	18·8
October 26	60	378	4·5	17·3

MANSONVILLE, QUE.

In herd 3 the average yield is 3,144 pounds of milk in 5 months, but in herd 13 the average is only 2,336 pounds in that time. A simple calculation indicates that if the cows in herd 13 produced as much as those in herd 3, there would be a total yield of 6,400 pounds of milk more, or *practically 200 pounds of butter more in five months.* Another $42 from 8 cows in that short time would be a more satisfactory income.

Telling as such a contrast is, that between herds 4 and 6 is greater. If as good as those in herd 6, the 16 cows in herd 4 would have made 224 pounds more butter in 4 months, and would have netted over $47 more for their owner.

In herd 1 the average yield is 2,750 pounds of milk in 5 months. Had they been as good producers as herd 3, 14 cows would have done as much work and brought as much profit as 21. There is a distinct saving to the farmer in time, energy and feed, through keeping better stock.

TABLE XIX.—TOTAL PRODUCTION OF INDIVIDUAL COWS—MANSONVILLE, QUE.

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months tested.	Milk.	Fat.
						Lbs.	Lbs.
1	20		3	Feb. 20, 1905..	4	1,490	63·9
	29				4	1,970	70·3
	14		7	Jan. 12, 1906..	4	2,480	94·8
	1		10	March 13, 1906..	4	2,240	96·2
	2		5	Dec. 25, 1905..	4	2,210	99·6
	19		3	March 15, 1906..	5	1,850	74·5
	3		3	" 20, 1905..	5	1,490	77·3
	25		2	April 7, 1906..	5	1,920	79·2
	22		7	March 20, 1906..	5	2,350	90·5
	26		2	April 7, 1906..	5	2,430	91·2
	21		3	March 6, 1906..	5	2,460	99·8
	17		7	Feb. 25, 1906..	5	2,600	101·7
	4		2	April 1, 1906..	5	2,550	103·1
	5		8	March 8, 1906..	5	3,160	107·8
	18		6	" 27, 1906..	5	2,970	108 1
	16		7	Feb. 10, 1906..	5	2,760	109·4
	27		7	April 7, 1906..	5	3,210	112·4
	11		6	March 12, 1906..	5	2,960	118·0
	9		7	April 1, 1906..	5	3,100	120·7
	10		6	March 20, 1906..	5	3,220	123·7
	12		6	" 10, 1906..	5	3,400	124·0
	6		8	" 1, 1906..	5	3,280	127·5
	8		9	" 1, 1905..	5	2,800	128·6
	7		9	" 4, 1906..	5	3,380	131·3
	13		7	" 12, 1906..	5	3,190	135·8
	15		7	" 10, 1906..	5	3,260	137·0
3	5	Guernsey	3		5	2,600	99·3
	7	Durham	9		5	2,510	101·4
	10	Guernsey	7		5	2,645	105·3
	2	"	2		5	2,675	111·8
	1	"	2		5	2,585	121·3
	14	Durham	9		5	3,290	121·8
	8	"	9		5	3,145	122·4
	12	"	6		5	3,825	125·2
	15	"	6		5	3,175	125·3
	11	Grade	12		5	3,545	130·2
	4	Guernsey	3		5	2,845	133·2
	9	Durham	9		5	2,825	138·1
	6	Durham Holstein	8		5	3,610	141·5
	3	Grade	9		5	3,525	145·1
	6	Durham Holstein	8		5	3,610	144·5
	13	Guernsey	6		5	3,745	145 7
4	18	Durham	2	March 28, 1906..	4	1,080	39·3
	4	"	3	April 1905..	4	1,190	55·2
	17	"	2	May 18, 1906..	4	1,310	60·3
	5	"	2	" 9, 1906..	4	1,760	66·5
	15	"	7	Nov. 1905..	4	1,640	69·9
	1	"	3	April 25, 1906..	4	1,840	72·5
	8	"	4	Jan. 10, 1906..	4	1,940	75·5
	10	Holstein	5	Feb. 2, 1906..	4	2,090	78·6
	7	Durham	3	April 5, 1906..	4	1,930	79·0

TABLE XIX.—TOTAL PRODUCTION OF INDIVIDUAL COWS, MANSONVILLE, QUE.
—Continued.

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months tested.	Milk.	Fat.
						Lbs.	Lbs.
4	13	Durham	8	Dec. 1905..	4	2,100	79·1
	12	"	14	April 5, 1906..	4	2,140	80·5
	16	"	3	Feb. 9, 1906.	4	1,999	81·8
	9	"	4	Jan. 2, 1906..	4	2,030	82·7
	11	"	4	" 1, 1906.	4	2,030	88·9
	14	"	7	" 10, 1906.	4	2,250	93·3
	6	"	5	May 9, 1906..	4	2,740	104·6
6	17	Grade	3	May 1, 1906..	4	1,482	56·1
	20	"	2	April 27, 1906..	4	1,610	63·2
	18	"	2	" 28, 1906..	4	1,725	66·7
	19	"	2	" 26, 1906..	4	1,645	67·5
	16	"	3	May 7, 1906..	4	2,007	76·6
	5	"	5	March 8, 1906..	4	2,035	79·3
	15	"	4	April 10, 1906..	4	2,300	80·6
	10	"	4	" 5, 1906..	4	2,540	81·0
	12	"	3	May 3, 1906..	4	2,347	84·9
	9	"	3	April 3, 1906..	4	2,315	86·2
	4	"	6	Feb. 6, 1906..	4	2,195	86·8
	13	"	8	May 6, 1906..	4	2,077	87·9
	21	"	8	" 6, 1906..	4	2,252	88·5
	14	"	4	April 20, 1906..	4	2,325	91·1
	7	"	6	Feb. 28, 1906..	4	2,374	92·1
	2	"	4	March 6, 1906.	4	2,395	93·5
	8	"	5	Feb. 28, 1906..	4	2,395	98·3
	1	"	6	" 7, 1906 .	4	2,840	102·0
	11	"	4	April 3, 1906 .	4	2,535	102·5
	3	"	8	Feb. 6, 1906..	4	2,585	105·8
	6	"	6	" 28, 1906..	4	2,680	111·3
7	10	Grade Durham	2	May 8, 1906..	4	1,693	69·1
	12	" "	3	April 1906..	4	1,410	61·4
	9	" "	2	" 1906..	4	1,880	66·8
	13	" Jersey	5	" 1906..	4	1,985	75·6
	2	" Ayrshire	10	March 1906 .	4	2,070	81·4
	3	" "	13	" 1906..	4	2,255	81·4
	4	" Durham-Jersey	8	April 1906..	4	2,210	81·8
	8	" Holstein	8	March 1906..	4	2,480	85·2
	7	" "	9	" 1906..	4	2,470	87·2
	1	" Jersey	8	" 1906..	4	2,340	87·9
	5	" Holstein	9	May 21, 1906..	4	2,565	91·5
	6	" "	8	March 1906..	4	2,535	95·0
	10	" "	5	May 1906..	4	2,705	101·0
12	2	" Jersey	8	Sept. 1905.	4	1,810	82·0
	5	" "	5	Feb. 1906 .	4	2,390	113·3
13	8	"	9	March 1905..	4	1,740	72·9
	11	" Jersey	3	Nov. 1905..	5	1,330	65·0
	5	" Guernsey	2	May 2, 1906..	5	2,650	92·7
	4	" Durham	4	March 1906..	5	2,530	95·5
	3	" Guernsey	4	Feb. 6, 1906..	5	2,330	106·2
	7	" Jersey	4	" 1906..	5	2,000	109·7
	1	" Guernsey	4	April 1906..	5	2,550	111·0
	12	" "	4	" 1906..	5	2,470	112·1
	9	" Jersey	5	Feb. 1906..	5	2,835	123·7
18	6				4	1,200	44·2
	5				4	1,330	59·1
	4				4	1,480	60·3
	7				4	1,620	64·0
	2				4	1,480	64·9
	9				4	1,970	71·2

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TABLE XIX.—TOTAL PRODUCTION OF INDIVIDUAL COWS, MANSONVILLE, QUE.
—*Concluded.*

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months tested.	Milk.	Fat.
						Lbs.	Lbs
18	13				4	1,720	72·2
	1				4	1,740	72·6
	3				4	1,590	73·2
	10				4	1,790	74·2
	12				4	1,940	75·3
	14				4	2,030	84·2
	11				4	2,190	85·2
	8				4	2,400	85 6
	15				4	2,210	90·1
19	30				4	1,060	49 5
	34				4	1,400	49·4
	36				4	1,070	49·7
	33				4	1,240	52·1
	31				4	1,255	54·2
	32				4	1,020	56 7
	24				4	1,340	64·8
	13				4	1,615	69·5
	29				4	1,800	70·5
	22				4	1,460	73·6
	23				4	1,750	77·1
	11				4	1,460	81·4
	25				4	2,030	81·5
	20				4	2,065	86·7
	6				4	2,070	87·9
	5				4	2,185	88·5
	28				4	2,405	91·4
	4				4	2,020	92·6
	9				4	2,400	96·8
	8				4	2,410	97·8
	21				4	2,540	100·8
	26				4	2,360	102·2
	19				4	2,345	102·7
	10				4	2,385	103·9
	27				4	2,555	104·9
	17				4	2,430	106·0
	1				4	2,840	110·3
	15				4	2,530	111·0

TABLE XX.—AVERAGE YIELDS OF 30 DAY PERIODS, 1906, ST. ARMAND, QUE.

30 Days ending	Total number of Cows.	Average.		
		Pounds of Milk.	Test.	Pounds of Fat.
Mar. 22	128	482	3·9	19·2
Apl. 24	252	492	3·8	18·7
May 24	318	521	3·8	20·2
June 23	355	661	3·9	26·2
July 23	328	577	4·1	24·1
Aug. 22	314	511	4·1	21·2
Sept. 21	322	522	4·3	22·5
Oct. 21	281	471	4·5	21·4
Nov. 20	266	339	4·9	16·7
Dec. 20	153	295	4·7	13 8

St. Armand, Que.

Some of the records in herd 1 give particular point to the necessity of studying the individuality of each cow as opposed to resting content with a fair average production from the whole herd. Looking at the group of cows tested for 8 months and considering only the question of age, it is noticed that the 3-year-old cow No. 28 heads the list with a total production of 176·2 pounds of fat, while the registered pure-bred animals 6 and 9 years old, cows Nos. 3 and 8, are down in the 137 and 142-pound class. Again, the 6-year-old cow No. 14, producing 231 pounds of fat in 9 months, is only 5½ pounds behind the record of 236·6 pounds of fat from the 9-year-old cow No. 9 in 10 months.

Attention must be drawn to the good record in herd 18 of the 5-year-old cow No. 4, producing 286·5 pounds of fat in 9 months, beating the best 10 months' record, 261·1 pounds, from cow No. 37 in the same herd, by 21·4 pounds of fat.

In herd 8, cow No. 14 gives 263·7 pounds of fat in 10 months. Two prominent individual records for 7 months are in herd 20, where cow No. 5 produces 220·3 pounds of fat; and in herd 27, where cow No. 19 produces 247·9 pounds of fat.

Glancing over the records of all the cows in this testing association, probably the most striking is that of cow No. 12 in herd 13, yielding 283·2 pounds of fat in 8 months. In this district there was a good hay crop and plenty of corn is fed.

TABLE XXI TOTAL PRODUCTION OF INDIVIDUAL COWS, ST. ARMAND, QUE.

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months Tested.	Milk.	Fat.
						Lbs.	Lbs.
1	1	Grade	8	June 8, 1905..	6	3,342	137·3
	33	Hereford	8	" 14, 1906..	7	3,129	119·2
	32	Jersey	6	" 1, 1906..	7	3,020	123·5
	7	"	9	Nov. 2, 1905..	7	3,097	155·8
	30	"	5	April 29, 1906..	7	4,140	178·7
	27	"	3	" 19, 1906..	8	2,710	128·7
	12	Registered Jersey	3	Jan. 7, 1906..	8	2,620	136·5
	3	"	9	Aug. 11, 1905..	8	2,555	137·5
	8	"	6	Nov. 3, 1905..	8	3,155	142·4
	6	"	3	Aug. 11, 1905..	8	3,475	148·8
	25	Jersey	11	April 8, 1906..	8	3,455	151·9
	31	"	11	May 10, 1906..	8	4,229	160·7
	13	Registered Jersey	6	Dec. 17, 1905..	8	3,895	170·7
	29	Jersey	7	April 16, 1906..	8	3,760	171·1
	28	"	3	" 16, 1906..	8	3,365	176·2
	21	"	2	Mar. 21, 1906..	9	2,500	115·0
	10	Registered Jersey	3	Nov. 11, 1905..	9	2,450	135·1
	5	"	3	Aug. 1, 1905..	9	2,740	142·0
	19	Grade	7	Mar. 17, 1906..	9	3,930	158·4
	23	Jersey	7	" 29, 1906..	9	4,165	190·7
	24	"	9	April 5, 1906..	9	4,465	191·2
	11	Registered Jersey	9	Nov. 15, 1905..	9	3,670	195·1
	15	"	5	Mar. 2, 1906..	9	4,900	221·2
	14	"	6	Jan. 25, 1906..	9	4,620	231·1
	2	"	10	June 8, 1905..	10	2,850	138·4
	17	Grade	4	Mar. 2, 1906..	10	3,660	156·1
	18	Jersey	7	" 7, 1906..	10	4,665	209·3
	16	Registered Jersey	7	" 1, 1906..	10	4,452	211·2
	9	"	9	Dec. 15, 1905..	10	4,470	236·6
2	6	Grade Durham	1	June 12, 1906..	7	3,357	128·1
	3	Grade Ayrshire	13	" 7, 1906..	7	3,791	131·7
	2	"	5	May 23, 1906..	7	3,875	152·0
	5	"	5	" 23, 1906..	7	4,320	156·0
	10	"	2	April 27, 1906..	8	1,949	81·7
	7	"	7	" 1905..	8	1,960	104·4

TABLE XXI.—TOTAL PRODUCTION OF INDIVIDUAL COWS, ST. ARMAND, QUE.
—*Continued.*

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months Tested.	Milk.	Fat.
						Lbs.	Lbs.
2	9	Grade Durham	3	May 20, 1906..	8	3,054	129·9
	4	"	8	April 23, 1906..	8	5,225	203·2
	8	"	6	" 19, 1906..	9	4,486	191·6
5	1	Low Grade	3	June 11, 1906..	5	1,555	77·9
	12	"	10	" 10, 1906..	5	2,225	82·9
	14		4	May 16, 1906..	6	2,335	95·7
	18	Low Grade	6	" 23, 1906..	6	2,435	104·4
	16	"	13	" 24, 1906..	6	3,050	117·0
	5	"	12	" 1, 1906..	7	3,854	154·1
	17	"	5	April 26, 1906..	7	3,450	142·3
	11	"	10	Mar. 26, 1906..	8	2,705	101·7
	13	"	10	April 2, 1906..	8	3,380	122·1
	15	"	4	Mar. 18, 1906..	8	3,030	130·2
	10	"	7	April 7, 1906..	8	3,242	144·4
	9	"	7	Mar. 30, 1906..	8	3,515	149·3
	6	"	12	" 21, 1906..	8	3,335	150·7
	7	"	5	" 28, 1906..	8	4,050	162·7
	2	"	8	" 30, 1906..	8	4,150	176·0
	3	"	8	" 26, 1906..	8	4,110	176·9
7	18	Grade	6	April 14, 1906..	7	2,860	101·6
	20	"	2	Feb. 23, 1906..	7	2,430	102·3
	6	"	10	April 26, 1906..	7	2,926	121·1
	12		10	May 15, 1906..	7	3,900	139·1
	19	Grade	2	Feb. 28, 1906..	8	2,670	107·9
	10	"	5	March 24, 1906..	8	3,500	132·1
	11	"	4	" 15, 1906..	8	3,240	135·3
	17	"	5	Feb. 18, 1906..	8	3,620	141·0
	9	"	8	March 30, 1906..	8	4,090	141·5
	16	"	7	" 15, 1906..	8	3,830	154·8
	2	"	5	April 20, 1906..	8	3,995	157·5
	13	Ayrshire	12	" 2, 1906..	8	4,180	160·0
	8	Grade	10	" 14, 1906.	8	4,200	160·5
	3	"	9	March 23, 1906..	8	4,240	166·3
	7	"	8	" 28, 1906..	8	4,630	173·7
	15	"	8	" 30, 1906..	8	4,490	175·5
	4	"	9	" 27, 1906..	8	4,410	178·1
	1	"	6	" 23, 1906..	8	4,700	193·1
8	19	Grade Guernsey	2	July 12, 1906..	6	1,691	72·1
	11	Grade	7	Feb. 10, 1906..	6	3,115	110·1
	23	"	9	Dec. 10, 1905..	6	2,620	111·4
	3	"	6	March, 1906..	7	3,380	126·9
	9	"	10	June 2, 1906..	7	4,520	159·1
	2	Grade Guernsey	6	Jan., 1906..	7	3,380	182·0
	21	"	2	April 24, 1906..	8	2,765	112·4
	22	Grade	13	Jan. 20, 1906..	8	3,960	149·5
	4	"	5	" 10, 1906..	8	4,025	152·0
	16	"	8	" 10, 1906..	8	3,930	161·1
	18	Grade Guernsey	6	" 18, 1906..	8	4,095	177·6
	27	"	3	May 14, 1906..	8	3,605	201·5
	5	Grade	8	April 1, 1906..	8	4,610	228·2
	6	Grade Guernsey	2	" 15, 1906..	9	2,670	116·9
	20	½ Guernsey	2	Jan. 30, 1906..	9	2,770	118·3
	7	Grade Guernsey	3	March 27, 1906..	9	2,955	135·5
	15	Grade	4	Jan. 6, 1906..	9	3,586	156·4
	10	Grade Ayrshire	3	April 8, 1906..	9	4,403	157·5
	24	Grade Guernsey	3	Dec. 20, 1906..	9	3,550	162·4
	1	"	6	April 8, 1906..	9	3,910	179·0
	12	Grade	8	Jan. 25, 1906..	9	4,415	179·2
	26	Grade Guernsey	3	April 17, 1906..	9	4,045	200·8
	25	"	3	Jan. 23, 1906..	9	4,085	204·8

TABLE XXI.—TOTAL PRODUCTION OF INDIVIDUAL COWS, ST. ARMAND, QUE.
—*Continued.*

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months Tested.	Milk.	Fat.
						Lbs.	Lbs.
8	13	Grade Guernsey	7	Feb. 8, 1906..	9	5,020	209·1
	8	"	5	Jan. 5, 1906..	10	4,340	167·8
	14	"	7	Feb. 22, 1905..	10	5,855	263·7
10	36				4	1,550	54·6
	16	Ayrshire	4	July 3, 1905..	4	1,615	59·7
	32		2	April 26, 1906..	4	1,783	68·5
	35				4	2,206	73·0
	34				4	2,880	110·7
	33		2	May 15, 1906..	6	1,943	77·7
	20	Grade Ayrshire	2	Feb. 12, 1906..	6	2,010	85·8
	15	Grade	5	August 1, 1905..	6	2,498	92·1
	17	Ayrshire	3	July 20, 1905..	6	2,045	92·1
	27		6	March 28, 1906..	6	3,168	122·6
	6	Grade Jersey	9	Dec. 12, 1905..	7	2,722	112·4
	19	Ayrshire	3	Aug. 17, 1905..	7	2,772	114·0
	10	Grade Holstein	8	June 20, 1905..	7	3,055	125·6
	23	Ayrshire	7	March 16, 1906..	7	4,545	169·9
	11	Gr. Holstein	7	June 4, 1905..	8	3,388	126·5
	5	Gr. Jersey	10	July 20, 1905..	8	3,492	145·8
	30		13	May 10, 1906..	8	4,704	176·4
	1	Gr. Jersey	13	Feb. 16, 1906.	8	4,683	176·8
	28		4	April 7, 1906..	8	4,509	183·3
	8	Gr. Ayrshire	8	March 2, 1906..	8	5,669	202·5
	31		9	May 10, 1906..	8	4,835	207·3
	11	Gr. Ayrshire	6	Feb. 18, 1906..	8	5,510	211·5
	2	Gr. Jersey	12	" 14, 1906..	8	5,156	227·3
	9	Gr. Ayrshire	8	March 16, 1905.	8	4,702	165·5
	18	Ayrshire	3	June 1, 1905..	9	2,814	110·7
	25		7	March 22, 1906..	9	3,910	153·4
	7	Gr. Jersey	9	Feb. 10, 1906..	9	3,986	162·7
	26		12	March 28, 1906..	9	4,332	163·9
	3	Gr. Ayrshire	11	Jan. 20, 1906..	9	4,942	191·4
	24		10	March 12, 1906.	9	5,438	218·5
	22	Ayrshire	4	" 4, 1906..	10	4,695	160·8
	4	Gr. Ayrshire	10	Jan. 10, 1906..	10	4,517	191·4
	13	Gr. Holstein	6	" 10, 1906..	10	4,570	193·0
	12	"	6	Feb. 18, 1906..	10	5,693	230·7
11	26	Grade	10	July 26, 1906..	4	2,191	105·8
	25	"	2	June 25, 1906..	5	2,092	82.2
	21	"	2	" 18, 1906..	5	2,085	91·7
	22	"	3	" 20, 1906..	5	2,450	103·8
	24	"	3	" 26, 1906..	5	2,164	107·5
	23	"	3	" 25, 1906..	5	3,126	140·7
	20	"	10	Spring, 1905	6	2,805	124·0
	17	"	12	April 28, 1906..	7	3,046	126·2
	15	"	4	" 26, 1906..	7	3,267	139·8
	16	"	6	" 26, 1906..	7	3,763	161·0
	19	"	5	May 1, 1906..	7	4,006	177·2
	18	"	10	" 4, 1906..	7	4,260	196·9
	2	"	6	March 25, 1906..	8	4,375	183·9
	13	"	3	" 7, 1906..	9	3,957	142·8
	4	"	5	April, 1906..	9	3,935	143·0
	10	"		March 19, 1906..	9	3,964	145·9
	8	"	4	April 18, 1906..	9	3,121	148·0
	11	"	10	Summer, 1905..	9	3,840	150·1
	9	"	4	April 16, 1906..	9	3,286	153.3
	12	"	3	March 5, 1906..	9	3,815	157·7
	1	"		Jan. 2, 1906..	9	4,015	163·4
	3	"	3	April 13, 1906..	9	3,970	164·9
	7	"	4	" 16, 1906..	9	3,580	166·5
	6	"		March 30, 1906..	9	4,220	175·2

TABLE XXI.—TOTAL PRODUCTION OF INDIVIDUAL COWS, ST. ARMAND, QUE.
—*Continued.*

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months Tested.	Milk.	Fat.
						Lbs.	Lbs.
11	14	Grade		March 9, 1906	9	4,455	181·1
	5	"	4	" 30, 1906	9	4,165	185·2
13	24	Gr. Ayrshire	5	May, 1905	4	1,425	54·3
	21	Gr. Jersey	2	" 1906	4	1,450	73·4
	10	Gr. Ayrshire	9	Sept. 1, 1905	5	2,405	87·1
	6	Grade	6	Jan. 1, 1906	6	2,430	85·9
	25	Gr. Ayrshire	7	May, 1905	6	2,585	92·9
	15	"	2	June, 1906	6	3,070	125·9
	5	Gr. Jersey	3	May, 1906	6	3,145	135·7
	22	Gr. Ayrshire	5	" 1906	6	4,175	179·9
	16	Durham	7	" 1906	6	4,435	190·1
	4	Gr. Jersey	3	" 1905	7	2,550	112·9
	18	Gr. Ayrshire	10	April 15, 1906	7	2,920	120·7
	7	Gr. Guernsey	8	March 1, 1906	7	4,015	157·1
	2	Gr. Ayrshire	4	May, 1906	7	4,270	160·4
	20	"	6	" 1906	7	4,586	177·8
	13	Grade Ayrshire	2	April 15, 1906	8	2,582	102·6
	3	"	3	March 4, 1906	8	4,095	140·3
	19	Grade Holstein	4	April 16, 1906	8	4,267	160·1
	23	Grade Ayrshire	3	" 6, 1906	8	4,677	163·6
	1	"	9	March 1, 1906	8	5,275	166·2
	8	"	4	" 4, 1906	8	4,465	170·4
	17	Grade Durham	11	" 7, 1906	8	4,640	179·9
	9	Grade	8	April 15, 1906	8	4,520	194·7
	14	Grade Ayrshire	5	March 15, 1906	8	5,380	199·6
	11	Grade Jersey	5	" 28, 1906	8	3,760	200·4
	12	Grade Durham	10	April 5, 1906	8	6,425	283·2
15	6	Grade	3	Sept. 1905	4	1,290	58·3
	31		3	June 1906	4	1,625	69·7
	9	Ayrshire	4	Nov. 5, 1905	4	1,625	70·7
	3	"	4	Aug. 1905	4	1,735	76·6
	30	"	4		4	1,825	79·3
	28	Grade Ayrshire	2	Aug. 1906	4	2,815	102·7
	23	"	4	May 1906	4	2,650	106·4
	29	Ayrshire	6	Aug. 1906	4	3,775	159·7
	27	"	2	" 4, 1906	5	2,285	90·4
	26	"	2	July 1906	5	2,335	98·8
	22	Grade Ayrshire	2	May 1906	5	2,525	102·8
	5	Ayrshire Jersey	3	Sept. 1905	6	2,375	106·2
	13	Ayrshire	7	Jan. 1906	6	3,415	134·7
	15	Grade Jersey	7	Feb. 1906	6	3,650	136·6
	19	Grade Ayrshire	8	March 1906	6	3,890	156·0
	16	Grade Jersey	4	Feb. 1906	6	3,900	158·2
	8	"	2	Nov. 1905	7	2,910	134·8
	2	Ayrshire Jersey	3	Aug. 1905	7	3,730	160·8
				Nov. 1905	7	4,295	160·9
	1	Grade Ayrshire	4	April 1906			
	10	Grade	2	June 1905	7	3,265	164·9
	11	Grade Ayrshire	3	" 1905	8	4,413	179·2
	21	Ayrshire	6	April 1906	8	5,610	193·0
	4	Grade	8	Sept. 1905	8	4,725	193·2
	7	Grade Ayrshire	4	Oct. 1905	8	4,905	193·4
	20	"	7	April 1906	8	5,680	211·3
	14	Grade	12	Feb. 1906	9	5,380	265·1
	18	Ayrshire	10	March 1906	9	5,620	227·2
	12	"	8	Calved Apr., '05	10	4,890	223·0
				Aborted Dec. '05			
	17	Ayrshire Jersey	10	March 1906	10	5,680	240·7
17	3	Grade Ayrshire	4	June 23, 1906	4	2,620	93·9
	4	Grade Jersey	9	March 7, 1906	7	2,727	115·2

TABLE XXI.—TOTAL PRODUCTION OF INDIVIDUAL COWS, ST. ARMAND, QUE.
—Continued.

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months Tested.	Milk.	Fat.
						Lbs.	Lbs.
17	1	Grade Ayrshire	5	April 13, 1906..	7	3,540	140·9
	7	Grade Jersey	13	March 5, 1906..	8	3,105	107·1
	6	Grade Guernsey	6	" 13, 1906..	8	3,292	127·3
	10	"	3	" 11, 1906..	8	2,545	130·8
	8	Grade Jersey	13	" 6, 1906..	8	3,312	131·3
	5	"	5	Feb. 27, 1906..	8	3,660	140·8
	9	Grade Guernsey	3	March 8, 1906..	8	3,519	150·2
	2	Grade Ayrshire	12	" 2, 1906..	8	5,120	201·7
18	47	Grade Ayrshire	2	May 4, 1906..	6	1,640	82·0
	26	Grade Guernsey	7	June 27, 1906..	6	3,820	161·2
	44	Grade Ayrshire	2	" 8, 1906..	7	2,270	88·1
	45	Grade Guernsey	2	" 2, 1906..	7	2,762	107·5
	35	Grade Jersey	3	" 16, 1906 .	7	3,355	128·2
	31	Grade Guernsey	3	" 9, 1906..	7	2,890	140·6
	6	"	11	" .., 1905 / Aug. .., 1906	7	3,696	146·9
	14	Grade Guernsey	12	June .., 1905 / July 23, 1906	7	4,030	166·9
18	1	Grade Guernsey	12	May 21, 1906..	7	4,183	172·5
	46	"	2	March 7 1906..	8	2,450	113·3
	42	"	2	Feb 18, 1906..	8	2,740	123·6
	8	"	3	April 10, 1906..	8	3,770	164·5
	18	"	5	May 17, 1906..	8	3,894	187·8
	12	Grade Jersey	7	" 9, 1906..	8	4,790	193·4
	24	Grade Guernsey	9	April 5, 1906..	8	5,230	207·1
	19	"	7	" 28, 1906..	8	4,954	231·5
	41	"	2	March 11, 1906..	9	3,190	140·2
	43	"	2	" 25, 1906.	9	2,720	140·9
	20	"	3	April 10, 1906..	9	3,963	182·8
	22	Grade Jersey	7	March 15, 1906..	9	4,701	183·9
	39	Grade Guernsey	3	" 20, 1906..	9	4,600	193·3
	40	"	3	April 10, 1906..	9	3,995	196·3
	32	"	4	March 26, 1906..	9	4,160	203·0
	16	"	4	" 12, 1906..	9	4,550	208·7
	9	"	5	Feb. 9, 1906..	9	5,220	220·6
	27	"	7	March 29, 1906..	9	4,870	227·0
	29	Grade	11	Feb. 18, 1906..	9	5,660	235·7
	10	Grade Ayrshire	5	April 7, 1906..	9	6,708	236·1
	23	Grade Guernsey	9	" 16, 1906..	9	5,555	243·9
	25	"	7	March 27, 1906..	9	6,880	250·9
	30	Grade	9	Feb. 21, 1906..	9	7,080	252·8
	15	Grade Guernsey	12	March 27, 1906..	9	5,750	254·8
	33	"	6	" 22, 1906 .	9	5,730	255·5
	4	"	5	Feb. 5, 1906..	9	5,700	286·5
	7	"	4	March 13, 1906..	10	4,340	202·5
	28	"	3	Feb. 13, 1906..	10	4,860	225·5
	5	"	5	March 16, 1906..	10	4,862	233 0
	13	"	11	Feb. 13, 1906..	10	5,580	241·7
	2	"	12	" 18, 1906..	10	5,830	251·7
	21	"	5	March 17, 1906..	10	5,625	254·7
	11	Grade Holstein	5	" 8, 1906..	10	6,962	257·4
	37	Grade Guernsey	6	Feb. 10, 1906..	10	5,790	261 1
20	11	Grade	2	Aug. 4, 1906..	5	1,830	76·9
	3	"	8	Farrow	6	1,160	42·2
	4	"	13	May 27, 1906..	6	3,618	160·9
	6	Grade Guernsey	8	June 27, 1906..	6	4,040	184·1
	7	Grade	4	Farrow	7	2,700	136·5
	10	"	3	June 3, 1906..	7	4,390	182·3
	5	Grade Jersey	4	May 10, 1906..	7	5,330	220·3

TABLE XXI.—TOTAL PRODUCTION OF INDIVIDUAL COWS, ST. ARMAND, QUE.
—Continued.

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months Tested.	Milk.	Fat.
						Lbs.	Lbs.
20	9	Grade	6	May 1, 1906..	8	5,010	190·2
	8	Grade Jersey	4	" 3, 1906..	8	4,680	195·8
	2	Grade Durham	8	" 10, 1906..	8	5,260	197·0
	1	"	7	March 15, 1906..	8	4,190	202·2
22	2	Registered Ayrshire	6	" 1905..	5	1,420	58·3
	6	"	6	July 15, 1905..	5	1,555	60·1
	13	Grade	6	May 1905..	5	1,815	67·9
	1	Grade Ayrshire	4	" 1905..	5	1,575	70·0
	3	Grade	11	April 25, 1906..	5	2,830	89·2
	12	"	6	" 20, 1906..	5	2,290	91·6
	9	"	12	March 30, 1906..	5	2,945	104·9
	7	Grade Ayrshire	10	April 1, 1906..	5	2,775	106·0
	8	"	8	" 2, 1906..	5	2,990	109·9
	5	Grade	10	" 27, 1906 .	5	3,195	110·0
	10	Grade Guernsey	8	" 15, 1906..	5	2,520	115·3
	11	Grade	9	" 26, 1906..	5	3,190	124·7
	4	"	12	" 24, 1906..	5	3,055	125·4
25	19	Grade Ayrshire	16	March 23, 1906..	5	2,495	98·4
	10	"	16	Feb. 4, 1906..	7	3,565	121·5
	11	"	12	Dec. 23, 1905..	7	2,985	122·9
	21	"	6	June 5, 1906.	7	3,964	155·9
	17	"	4	" 11, 1905..	8	3,415	140·1
	14	"	6	Jan. 8, 1906..	8	3,660	160·4
	22	"	7	May 9, 1906..	8	4,100	176·1
	3	"	4	Jan. 20, 1906..	9	3,150	127·9
	1	"	7	Feb. 25, 1905 } Aug. 2, 1906 }	9	3,620	151·4
	16	"	4	Feb. 2, 1906..	9	3,615	152·9
	20	"	6	April 7, 1906..	9	4,570	158·4
	4	"	7	July 21, 1905..	9	3,325	162·1
	13	"	4	Jan. 1, 1906..	9	4,020	180·7
	7	"	5	Feb. 1, 1906..	9	4,895	192·2
	18	"	4	" 7, 1906 .	10	3,985	163·8
	12	"	3	Dec. 24, 1905..	10	4,630	172·9
	8	"	4	Jan. 24, 1906 .	10	3,910	176·7
	15	"	6	Feb. 25, 1906..	10	4,595	179·7
	5	"	7	Jan. 3, 1906..	10	4,945	188·1
	9	Grade Jersey	10	Feb. 18, 1906..	10	5,210	212·0
	6	Grade Ayrshire	7	" 10, 1906..	10	5,365	218·8
	2	"	7	" 13, 1906 .	10	5,390	227·0
27	12		5	April 4, 1906..	6	2,830	97·9
	15		6	" 15, 1906..	6	2,940	101·2
	18	Jersey	2	May 20, 1906..	7	1,768	90·1
	24	Grade	3	June 17, 1906..	7	3,338	154·9
	21	"	10	" 16, 1906..	7	4,401	170·3
	22	"	6	" 15, 1906..	7	4,832	216·2
	19	"	5	May 23, 1906..	7	5,950	247·9
	23	"	3	April 21, 1906..	8	3,224	137·9
	6		7	March 28, 1906..	8	4,330	146·3
	7		6	" 28, 1906..	8	3,860	158·9
	17	Grade	9	May 1, 1906..	8	4,251	162·7
	2		5	March 4, 1906..	8	4,040	171·9
	4		5	" 20, 1906..	8	4,920	196·0
	3		5	" 15, 1906..	8	4,330	196·9
	1	Grade	3	Feb. 20, 1906..	9	3,670	172·7
	25	"	9	April 14, 1906..	9	4,790	175·4
	9		13	March 15, 1905..	9	3,870	176·3
	8		8	" 20, 1906..	9	4,260	188·7
	13		9	April 7, 1906..	9	4,432	195·5
	16		4	" 15, 1906..	9	4,220	198·8

TABLE XXI.—TOTAL PRODUCTION OF INDIVIDUAL COWS, ST. ARMAND, QUE.
—Concluded.

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months tested.	Milk.	Fat.
						Lbs.	Lbs.
27	11	Grade	6	April 4, 1906..	9	5,240	208·4
	20	"	6	May 23, 1906..	9	5,015	210·4
	10		4	April 2, 1906..	9	4,346	215·0
	14		9	" 8, 1906.	9	5,188	215·5
	5		10	March 25, 1906..	9	6,810	274·5

TABLE XXII.—AVERAGE YIELDS OF 30 DAY PERIODS, 1906, ST. EDWIDGE, QUE.

30 days ending.	Total number of Cows.	Average.		
		Pounds of Milk.	Test.	Pounds of Fat.
April 10	46	555	3·8	20·9
May 10	161	543	3·5	19 3
June 10	288	651	3·8	24·9
July 9	307	725	3·7	27·2
Aug. 8	304	654	3·9	25·7
Sept. 7	295	589	4·0	23·8
Oct. 7	255	510	4·4	22·6
Nov. 6	236	354	4·7	16·9
Dec. 6	158	247	4·9	12·1

St. Edwidge, Que.

On comparing some records of individual cows, contrasts are brought to light which are worth more than a passing glance; they call for serious reflection. For instance, in herd 12 the highest yield of milk by any one cow is 4,414 pounds, containing 167·7 pounds of fat, but the 5-year old cow No. 4 yields 65·3 pounds of fat less than that in the same seven months. In herd 11 the highest yield of fat in 7 months is 120·4 pounds, but in herd 6 during the same period, one cow gives 182·3 pounds, or 61·9 pounds more fat.

Taking the group of herds recorded for 8 months, it is found that in herd 23 the 3-year-old cow No. 6 gives 44·1 pounds of fat less than the best producer; but, again in 8 months, cow No. 14 in herd 8 falls as much as 99·5 pounds behind the highest yield. Herds 8, 17 and 21 have cows giving the very satisfactory yields of 242·6, 237·6 and 251·5 pounds of fat, a very great improvement on the record of the best cow in herd 18, only 154·8 pounds fat. Herd 21 has a cow giving 96·7 pounds of fat more than the best cow in herd 18 in eight months.

In the lot of 6 herds recorded for 9 months, herd 16 consists of cows with a very even run of total production. However, in herd 1 there is a greater contrast, for a 12-year-old cow there gives 153·3 pounds of fat less than the one with the splendid total of 285·9 pounds of fat to her credit. Herd 7, again, has the wide variation of 92·3 pounds of fat between the highest and lowest yields, while the best cow in the herd gives only 4,990 pounds of milk, or 2,550 pounds less than the best cow in herd 1, during the 9 months.

In herd 18 the 5 cows tested 8 months, all calving April, 1906, and none under 4 years old, have a total production of only 16,818 pounds of milk; but in herd 8 just double the number of cows, namely 10, have to their credit the much more satisfactory total of 53,978 pounds of milk, or more than 3 times as much milk.

In herd 3 the 6 cows tested 8 months show a total yield of 24,240 pounds of milk; in herd 21 the 6 cows tested 8 months show 33,573 pounds, a better yield by 9,333 pounds, from the same number of animals.

So instances might be multiplied, drawing comparisons between the best and poorest cows in each herd under the same management, and between the best cows in the various herds in the same locality. Such great differences indicated in these figures point emphatically to the great room for, and urgent need of, following up these records by judicious selection and better feeding of the good cows, and the speedy elimination of those with low and unsatisfactory total production.

It should be noticed that the lowest yields of milk and fat are by no means all from young 2 and 3-year-old stock. In 19 out of the 28 herds under consideration here, the lowest yields are from cows aged 4 to 12 years.

TABLE XXIII. TOTAL PRODUCTION OF INDIVIDUAL COWS, ST. EDWIDGE, QUE.

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months Tested.	Milk.	Fat.
						Lbs.	Lbs.
1	30	French Canadian	7	Feb. -, 1906..	4	1,290	60·5
	13	Grade Ayrshire	3	Aug. 18, 1906..	4	2,180	80·9
	22	Guernsey, Holstein	4½	July 4, 1905..	5	1,920	108·6
	1				6	1,690	72·9
	36	Shorthorn, Grade Jersey	12	June 26, 1905..	6	2,110	81·9
	4				6	2,150	107·4
	24	Grade Holstein	8	June 23, 1905..	7	2,590	112·3
	10	Grade Shorthorn	3	" 21, 1905..	7	2,470	117·8
	8	Guernsey, Hereford	2	April 29, 1906..	7	2,610	126·5
	16	Ayrshire, Grade Hereford	3	June 29, 1905 .	7	3,720	130·1
	35	Grade Guernsey	10	April 29, 1906..	7	5,340	275·3
	2				8	2,370	121·5
	5				8	3,120	142·7
	14	Ayrshire, Grade Shorthorn, Jersey	3	May 28, 1905..	8	3,910	143·8
	11	Grade	3	Jan. 14, 1906..	9	3,500	130·9
	37		12	July 3, 1905...	9	3,270	132·6
	9	Grade Shorthorn	3	April 2, 1906..	9	4,042	158·4
	29		9	Mar. 14, 1905..	9	3,720	172·5
	20	Grade Shorthorn	9	April 9, 1906..	9	4,038	172·7
	18	Red Polled	4	Mar. 31, 1906 .	9	3,980	181·9
	21	Grade Shorthorn	4	" 11, 1906..	9	4,200	185·9
	15	Grade Ayrshire	3	" 5, 1906..	9	4,820	187·8
	12	Grade	8	Jan. 14, 1906..	9	4,400	195·6
	17	Grade Ayrshire	3	Mar. 17, 1906..	9	5,340	198·1
	33	Shorthorn	10	" 24, 1906..	9	4,974	205·9
	26	Grade Ayrshire	8	Feb. 11, 1906..	9	4,890	208·6
	25	Grade Holstein	7	Mar. 25, 1906..	9	5,592	224·0
	31	Grade Ayrshire	9	" 3, 1906..	9	5,770	229·1
	34	French Canadian	10	Feb. 19, 1906 .	9	4,990	239·8
	23	Jersey, Grade Shorthorn	5	April 2, 1906..	9	5,174	241·9
	32	Grade Shorthorn	10	Mar. 12, 1906..	9	5,920	244·7
	38	Shorthorn, Grade Ayrshire	12	" 6, 1906..	9	7,540	285·9
2	6	Grade	2	May 28, 1906..	5	1,980	77·4
	4	"	9	April 15, 1906..	8	5,170	198·3
	1	Durham	10	Mar. 10, 1906..	9	5,360	207·8
	3	Ayrshire	5	Feb. 11, 1906..	9	6,220	236·8
	2	Grade	8	Mar. 16, 1906..	9	6,530	242·8

TABLE XXIII.—TOTAL PRODUCTION OF INDIVIDUAL COWS, ST. EDWIDGE, QUE.
—Continued.

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months tested.	Milk.	Fat.
						Lbs.	Lbs.
3	1	Durham	7	April 29, 1906..	7	3,546	133·2
	3	Polled Angus	6	May 4, 1906..	7	3,846	143·2
	8	Durham	2	Mar. 13, 1906..	8	2,990	118·1
	4	"	3	Feb. 11, 1906..	8	3,630	143·6
	2	"	3	Mar. 2, 1906..	8	4,170	162·3
	7	"	3	Feb. 9, 1906..	8	4,140	165·8
	5	"	4	Mar. 20, 1906..	8	4,840	173·5
	6	Ayrshire	12	" 17, 1906..	8	4,560	194·2
4	11	Grade	8	June 12, 1906..	4	2,486	101·1
	4	"	9	May 30, 1906..	6	3,770	150·3
	9	"	4	April 9, 1906..	7	3,880	147·3
	3	"	10	" 9, 1906..	7	3,840	148·4
	8	"	8	" 16, 1906..	7	5,204	250·0
	15	"	3	Mar. 16, 1906..	8	3,000	119·8
	13	"	6	" 24, 1906..	8	3,875	153·1
	10	"	6	April 1, 1906..	8	3,620	153·4
	5	"	9	Mar. 26, 1906..	8	4,785	174·1
	6	"	7	" 17, 1906..	8	4,922	189·9
	1	¾ Durham ¼ Ayrshire	6	" 15, 1906..	8	4,382	192·3
	2	½ Canadian ½ Durham	9	" 24, 1906..	8	5,024	200·4
5	10	Durham and Ayrshire	2	May 11, 1906..	6	2,500	107·6
	6	Grade Durham	13	April 16, 1906..	8	4,664	184·7
	4	¾ Ayrshire	3	Jan. 9, 1906..	9	3,585	140·6
	8	Durham and Ayrshire	4	Mar. 4, 1905..	9	3,860	154·0
	3	Durham	3	Dec. 21, 1905..	9	4,060	165.4
	2	" Grade Ayrshire	3	" 19, 1905..	9	3,915	175·6
	7	Grade Durham	7	Mar. 14, 1906..	9	6,564	233·6
	5	Durham, Ayrshire	10	" 16, 1906..	9	7,014	233·8
	1	"	4	" 15, 1906..	9	6,514	243·2
6	3	Grade	6	May 30, 1906..	6	3,230	128·8
	9	"	4	April 12, 1906..	7	3,576	138·6
	2	"	6	" 17, 1906..	7	3,824	138·7
	5	"	4	" 17, 1906..	7	3,540	140·7
	8	"	6	May 1, 1906..	7	3,440	150·5
	4	"	8	" 2, 1906..	7	4,500	173·0
	10	Ayrshire	7	April 20, 1906..	7	4,190	182·3
	6	Grade	3	March 8, 1906..	8	3,050	133·0
	7	"	4	" 12, 1906..	8	3,860	161·9
7	10		6	May 7, 1906..	7	3,270	109·5
	9		4	April 22, 1906..	7	3,508	152·2
	8		3	" 16, 1906..	8	3,446	143·6
	3	Grade	5	March 13, 1906..	8	4,340	159·8
	11	"	4	" 25, 1906..	9	3,094	110·5
	7	"	3	April 1, 1906..	9	3,490	142·8
	4	"	4	March 24, 1906..	9	3,788	162·5
	5	"	7	" 31, 1906..	9	4,130	168·6
	2	"	4	" 18, 1906..	9	4,622	190·6
	6	"	7	" 15, 1906..	9	4,448	194·3
	1	"	5	Jan. 28, 1906..	9	4,200	201·5
	12	"	10	March 9, 1906..	9	4,990	202·8
8	4				6	3,315	132·4
	15	Grade Ayrshire	3	May 4, 1906..	7	2,789	129·0
	2	"	4	April 25, 1906..	7	3,335	145·8
	11	Grade Jersey	12	May 7, 1906..	7	4,278	159·1
	7	Grade Hereford	11	April 20, 1906..	7	5,235	188·5
	14	"	4	March 30, 1906..	8	3,425	143·1

TABLE XXIII.—TOTAL PRODUCTION OF INDIVIDUAL COWS, ST. EDWIDGE, QUE.
—Continued.

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months Tested.	Milk.	Fat.
						Lbs.	Lbs.
8	3	Grade Ayrshire	7	March 7, 1906..	8	4,865	172·4
	2	Grade Durham	9	" 10, 1906..	8	5,535	177 2
	5	"	7	" 17, 1906..	8	5,178	205·7
	8	Grade Jersey	12	" 15, 1906..	8	5,317	211·9
	12	Grade Ayrshire	10	" 21, 1906..	8	5,880	228·2
	13	Grade Hereford	9	Feb. 23, 1906..	8	5,245	231·6
	9	"	8	April 3, 1906..	8	5,773	232·3
	6	Durham	6	March 10, 1906..	8	6,625	237 5
	10	"	8	" 7, 1906..	8	6,135	242·6
9	5		3	May 22, 1906..	5	1,884	80·1
	4		4	" 25, 1906..	5	2,403	99·0
	8		7	June 5, 1906..	5	3,276	119·5
	2	Durham	8	May 1, 1906.	6	3,405	118·8
	1	"	7	April 1, 1906 .	6	3,975	121·3
	6	Hereford	9	" 11, 1906..	6	3,720	155·0
	3	Canadian	6	" 15, 1906 .	6	4,030	164·9
	7	Ayrshire	10	" 25, 1906..	6	4,275	173·5
11	10			" 27, 1906..	5	1,830	91·4
	6			June 4, 1906..	6	2,710	97·3
	9			Dec. 27, 1905..	6	2,250	109·8
	7	Hereford		May 27, 1906..	6	3,160	121·3
	2	Holstein	7	March 26, 1906..	7	2,960	103·8
	1	½ Jersey	8	" 21, 1906.	7	2,760	110·2
	5	Holstein	10	May 7, 1906..	7	2,891	111·8
	4	Grade Durham	11	" 7, 1906..	7	3,357	120·4
	3	½ Holstein	10	April 2, 1906..	8	3,149	125·3
12	12	Holstein-Durham	2	May 30, 1906..	5	1,950	73 8
	3	Jersey-Durham	6	Feb. 15, 1906..	5	2,380	91·4
	7	¾ Durham	4	March 27, 1906.	5	2,758	93·6
	9	Durham	3	April 9, 1906.	5	2,930	113·6
	10	Holstein-Durham	2	" 20, 1906..	6	2,860	124 3
	11	Canadian	14	" 22, 1906..	6	3,520	136·7
	4	Holstein-Durham	5	Dec. 14, 1906..	7	2,560	102·4
	8	Quebec Jersey	5	April 5, 1906..	7	3,586	143·8
	2	Grade Holstein	3	Feb. 20, 1906..	7	3,660	151·4
	6	Durham-Ayrshire	6	March 21, 1906..	7	3,798	160·4
	1	Durham-Jersey	9	" 15, 1906..	7	4,320	164·9
	5	Ayrshire	8	" 15, 1906..	7	4,414	167·7
13	4	Ayrshire	9	April 17, 1906..	8	3,663	136·3
	1	Durham	4	May 1, 1905..	8	3,100	137·1
	3	"	10	April 17, 1906..	8	4,415	170·4
	7	Canadian	8	" 22, 1906..	8	3,885	182·8
	6	Durham	6	" 18, 1906..	8	4,197	190·6
	2	"	4	" 15, 1906..	8	5,320	195·0
14	4	Grade Durham	8	March 17, 1906..	6	3,236	126·8
	2			May 7, 1906..	7	4,260	166·2
	8			" 7, 1906..	7	5,310	200·0
	10		4	April 17, 1906..	8	3,730	156·5
	11		3	" 13, 1906..	8	4,691	176·7
	3		8	" 17, 1906..	8	4,785	196 2
	1	Grade Durham	6	March 27, 1906..	9	4,020	142·8
	6	"	9	Feb. 23, 1906..	9	4,170	153·7
	9	"	3	March 1, 1906.	9	4,510	176·0
	12		3	Feb. 16, 1906..	9	4,270	179·5
	7	Grade Durham	6	March 19, 1906..	9	5,310	208·3
	5	"	6	" 25, 1906..	9	5,620	227·5

TABLE XXIII.—TOTAL PRODUCTION OF INDIVIDUAL COWS, ST. EDWIDGE, QUE.
—Continued.

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months Tested.	Milk.	Fat.
						Lbs.	Lbs.
15	7	Durham	13	June 25, 1906..	5	2,620	103·5
	9	Registered Shorthorn	12	March 26, 1906..	6	4,140	152·9
	11	" "	5	June 13, 1906..	6	4,126	163·5
	2	Durham-Hereford	6	May 25, 1906..	7	5,165	214·4
	10	Registered Shorthorn	5	March 25, 1906..	8	4,330	157·3
	3	Durham-Hereford	6	" 11, 1906..	8	4,750	171·5
	4	Durham	10	" 2, 1906..	8	4,750	186·9
	6	"	5	" 22, 1906..	8	4,510	195·6
	1	Durham-Hereford	6	" 8, 1906..	8	5,130	206·5
	8	Durham	5	" 27, 1906..	8	5,760	215·7
16	4	Grade Durham	13	April 27, 1906..	7	5,444	203·3
	3	"	5	May 7, 1905	8	2,455	93·8
	2	"	3	April 8, 1906..	8	4,614	172·7
	7	"	12	March 20, 1906..	8	4,805	183·6
	1	"	3	April 24, 1906..	8	5,574	228·5
	8	"	4	" 4, 1906..	9	4,967	200·7
	9	"	4	March 24, 1906.	9	5,045	202·1
	6	Durham-Hereford	9	" 31, 1906..	9	6,281	208·4
	5	Grade Durham	5	" 16, 1906..	9	5,760	226·0
17	11	Durham	7	" 12, 1906..	7	3,950	159·1
	5	"	7	May 21, 1906..	7	5,070	188·7
	15	"	5		7	4,730	190·6
	4	"	13		7	5,000	200·0
	2	Durham-Hereford	4		8	3,360	169·3
	13	"	3	March 13, 1906..	8	4,690	182·7
	7	"	9		8	4,760	191·0
	1	"	4	March 22, 1906..	8	5,090	200·5
	10				8	5,570	203·4
	3	Durham	10	March 31, 1906..	8	5,570	214·4
	6	"	7		8	5,790	237·6
	8	"	5	April 6, 1906..	9	5,050	184·0
	14	Durham-Hereford	3	" 3, 1906..	9	4,916	188·4
	16	Durham	4	" 3, 1906..	9	5,282	206·0
18	6	Grade	8	May 20, 1906.	7	3,880	158·5
	1	"	4	April 21, 1906..	8	1,997	89·9
	7	"	7	" 2, 1906..	8	3,513	136·5
	3	"	9	" 20, 1906..	8	3,750	144·5
	8	"	7	" 16, 1906..	8	3,510	146·2
	5	"	9	" 21, 1906..	8	4,048	154·8
	4	"	8	" 6, 1906..	9	3,315	147·0
19	10	Canadian	10	June 23, 1906..	6	3,320	115·9
	9	"	8	May 17, 1906..	7	3,933	155·7
	8	"	8	" 11, 1906..	7	4,272	167·7
	5	Grade	5	April 23, 1906..	8	3,253	132·7
	6	"	4	" 25, 1906..	8	3,545	138·5
	7	Canadian	5	May 5, 1906..	8	3,490	159·3
	3	Grade	11	April 14, 1906..	8	4,130	165·5
	4	"	7	" 15, 1906..	8	4,460	168·7
	2	"	3	March 24, 1906..	9	3,276	129·2
	1	"	3	" 2, 1906..	9	4,120	147·3
20	12	Canadian	5	May 30, 1906..	6	3,050	119·3
	14	Ayrshire	3	June 13, 1906..	6	3,032	125·2
	15	Durham	4	" 15, 1906..	6	3,336	142·1
	11	"	6	May 25, 1906..	6	3,870	149·9
	13	Jersey	4	June 4, 1906..	6	3,360	150·7
	1	Durham	11	" 14, 1905..	7	3,120	115·8
	2	Grade Jersey	6	July 16, 1905..	7	2,445	119·3
	4	Hereford	5	May 22, 1905.	7	2,885	132·4

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TABLE XXIII.—TOTAL PRODUCTION OF INDIVIDUAL COWS, ST. EDWIDGE, QUE.
—Continued.

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months Tested.	Milk.	Fat.
						Lbs.	Lbs.
20	10	Durham	13	April 28, 1906..	7	3,935	159·8
	9	Jersey	4	" 15, 1906..	7	3,980	215·6
	3	½ Durham	4	" 11, 1905..	8	2,435	127·7
	7	Canadian	4	" 4, 1906..	8	3,620	143·1
	5	Hereford	5	March 31, 1906..	8	4,540	161·5
	6	"	4	" 30, 1906..	8	3,615	166·3
	8	Durham, Hereford	5	April 12, 1906..	8	4,310	169·7
21	6	Grade Durham	3	" 22, 1906 .	7	4,110	161·8
	7	"	3	March 7, 1906..	7	5,020	186·3
	2	"	5	April 25, 1906..	7	4,750	195·2
	9	Durham, Hereford	4	May 9, 1906 .	7	5,740	220·4
	3	Grade Durham	4	March 21, 1906..	8	4,410	183·0
	12	"	3	April 4, 1906..	8	5,230	207·0
	5	Grade	11	March 30, 1906..	8	5,640	227·6
	4	"	4	April 4, 1906..	8	5,700	232·9
	1	Grade Durham	5	" 6, 1906..	8	5,913	245·5
	10	¾ Hereford	8	" 10, 1906..	8	6,680	251·5
	8	Grade Durham	5	March 1, 1906..	9	6,655	266·2
	11	Grade	8	Jan. 25, 1906..	9	7,145	278·1
22	2	"	6	April 23, 1906..	5	2,523	96·2
	5	"	4	" 2, 1906..	6	2,435	91·1
	4	"	5	" 5, 1906..	6	2,906	109·0
	1	"	6	March 24, 1906..	6	3,350	117·6
	3	"	6	" 16, 1906..	6	2,680	118·4
23	5	Grade Durham	13	May 15, 1906..	6	5,010	193·1
	2	"	10	" 3, 1906 .	7	4,242	149·0
	6	Grade Ayrshire	3	Dec. 23, 1905..	8	3,600	149·2
	1	Canadian	12	March 14, 1906..	8	4,010	153·8
	4	Grade Durham	14	" 12, 1906..	8	4,245	158·3
	3	"	6	" 14, 1906..	8	5,316	193·3
24	5				5	2,460	98·6
	2		5	May 20, 1906..	6	4,680	212·2
	7		3	April 3, 1906..	8	3,230	146·1
	6		3	March 31, 1906..	8	3,360	158·2
	1		5	Feb. 16, 1906..	8	3,780	175·0
	4		4	April 4, 1906..	8	4,225	178·1
	3		5	" 20, 1906..	8	5,060	206·6
26	1	Grade Durham	9	April 16, 1906..	4	2,486	90·9
	5	"	6	" 13, 1906..	4	2,663	116·3
	4	"	3	March 30, 1906..	5	2,180	80·1
	8	"	3	April 4, 1906..	5	2,212	80·7
	6	"	7	March 25, 1906..	5	2,050	95·5
	9	"	13	Feb. 18, 1906..	5	2,660	103·2
	3	"	8	March 27, 1906..	5	3,106	108·1
	2	"	7	" 26, 1906..	5	3,245	142·8
27	8	Durham	3	April 18, 1906..	8	3,271	129·8
	4	"	5	" 1, 1906..	8	4,365	157·4
	1	"	9	" 24, 1906..	8	3,862	165·9
	2	Ayrshire	5	" 10, 1906..	8	4,125	169·8
	7	Hereford	4	" 12, 1906..	8	4,160	174·9
	6	Durham	5	May 4, 1906..	8	4,640	181·7
	3	"	12	April 10, 1906..	8	5,075	183·9
	5	"	10	" 3, 1906..	8	3,990	184·5
29	2		4	Farrow	4	1,559	70·2
	14		3	April 8, 1906..	4	1,955	78·3
	13		6	" 12, 1906..	4	2,133	82·3

TABLE XXIII.—TOTAL PRODUCTION OF INDIVIDUAL COWS, ST. EDWIDGE, QUE.
—*Concluded.*

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months Tested.	Milk.	Fat.
						Lbs.	Lbs.
29	18		4	April 6, 1906..	4	2,043	82·8
	17		10	Farrow....	4	1,793	84·2
	8		9	March 26, 1906..	4	2,192	88·7
	15		3	" 29, 1906..	4	1,905	90·2
	1		4	" 10, 1906..	4	1,835	93·5
	5		10	April 7, 1906..	4	2,650	95·0
	16		8	March 9, 1906..	4	2,209	95·6
	10		7	" 19, 1906 .	4	2,555	98·2
	4		7	" 19, 1906..	4	2,640	102·1
	20		7	May 12, 1906..	4	2,626	102·3
	7		7	March 19, 1906..	4	2,520	105·7
	6		5	April 10, 1906..	4	2,808	108·4
	19		5	" 25, 1906..	4	2,557	119·6
	3		7	March 7, 1906..	4	2,862	119·9
	9		9	April 10, 1906..	4	3,082	121·3
31	9	Ayrshire	3	Jan. 18, 1906..	7	3,160	145·4
	6	"	5	" 5, 1906..	7	3,700	153·8
	10	"	10	April 4, 1906..	7	5,349	217·2
	3	Durham-Hereford	6	Jan. 10, 1906..	8	3,500	142·6
	5	Durham	6	April 6, 1906..	8	5,130	174·7
	4	"	3	" 17, 1906..	8	4,360	175·7
	8	"	3	March 28, 1906..	8	4,520	182·2
	2	Ayrshire	11	April 15, 1906..	8	4,720	183·9
	1	Canadian	4	" 25, 1906..	8	4,389	188·3
	7	"	7	" 20, 1906..	8	4,770	188·7

TABLE XXIV.—DIFFERENCE BETWEEN BEST AND POOREST COWS IN THE SAME HERD, AT ST. EDWIDGE, QUE., 1906.

Herd Number.	Number of Months.	Difference in Yield.		Age of Cow with lowest yield.
		Milk.	Fat.	
		Lbs.	Lbs.	
1	9	4,270	151	12
7	9	1,900	92	4
14	9	1,600	84	6
17	8	2,430	68	4
18	8	2,000	68	5
8	8	1,760	65	7
13	8	1,650	59	9
15	8	1,430	58	5
31	8	1,270	40	6

Table XXIV is compiled to illustrate the difference between the best and poorest cows in several herds at St. Edwidge. In herd 1 the best cow gives in 9 months 151 pounds of fat more than the poorest cow in that herd, which animal is not a heifer by any means, but rejoicing in the mature wisdom of 12 years. In the column for the age of the cow with the lowest yield in the various herds, is to be found nothing under 4 years old

A glance over the records points this moral, that in many cases neither heifers nor farrow cows can be blamed for pulling down average herd yields of milk and fat; it is too frequently the mature animal that is the offender and would continue undetected unless revealed by such work as these associations undertake.

TABLE XXV.—COMPARISON OF HERDS AT ST. EDWIDGE, QUE., 8 MONTHS—MAY TO DECEMBER, 1906.

Herd Number.	Number of Cows.	Total Yield.		Average Yield per Cow.	
		Milk.	Fat.	Milk.	Fat.
		Lbs.	Lbs.	Lbs.	Lbs.
21	8	45,713	1,836	5,714	229
8	10	53,980	2,084	5,398	208
18	5	16,525	680	3,305	136

AVERAGE RETURNS PER COW.

Herd 8 gave 72 lbs. fat at 22c. = $15.84
" 21 " 93 " 22c. = $20.46
} More than herd 18.

Three herds in the St. Edwidge, Que., association are contrasted in table XXV, indicating that the 8 cows in herd 21 have an average yield of 229 pounds of fat, but the 5 in herd 18 can only muster up enough feed or vitality to produce 136 pounds. Who can measure the possibilities of 'what might be'?

The average receipts are seen to be $20.46 per cow more in herd 21 than in herd 18 during 8 months.

TABLE XXVI.—AVERAGE YIELDS OF 30 DAY PERIODS, 1906, ST. CAMILLE, QUE.

30 days ending.	Total number of Cows.	Average.		
		Milk.	Test.	Fat.
		Lbs.		Lbs.
May 3	23	513	3·5	18·3
June 2	151	582	3·5	20·9
July 2	182	688	3·8	26·2
Aug. 1	180	612	3·8	23·4
Aug. 31	160	498	4·0	20·3
Sept. 30	130	429	4·3	18·8
Oct. 30	120	350	4·6	16·2
Nov. 30	58	243	4·9	11·9
Dec. 29	40	243	4·6	11·4

St. Camille, Que.

In considering the records of the 21 herds comprising this association, it is a matter of great regret that the members did not continue recording weights of milk for a longer period. There are only 13 herds for which figures are given for 6 months or more.

However, the totals available are both interesting and instructive; they point to the advisability that exists in many herds of a continuation of the system of record-

ing weights, so that intelligent steps may be taken in discarding cows with unsatisfactory yields, thus improving the general average, and maintaining only such animals as will come up to a reasonable standard of production.

In herd 28 it is found that the highest yield of any cow is 2,900 pounds of milk, containing 115·5 pounds fat; but the best yield in herd 16 is 4,240 pounds of milk and 180·8 pounds of fat, or an increase of 1,340 pounds of milk and 65·3 pounds of fat. The difference in the one herd between the highest and lowest yield of fat is only 23·6 pounds, indicating a lot of cows of fairly even production; but in herd 16 the difference is 52·4 pounds of fat in 6 months, the low yield being not from a young heifer, but from a 5-year-old cow. In herds 20 and 9 that difference in fat production still runs high, being 48 and 56 pounds.

Taking herd 8 it will be observed that the best cow gave 950 pounds less milk in 7 months than the best cow in herd 16 in 6 months.

Looking at the record of herds 19 and 32, a startling contrast is revealed. The best cow in herd 19, calving in March, gave only 3,115 pounds of milk in 9 months (which is a lower yield than many cows in this association gave in 4 months), while a cow in herd 32 shines forth as the producer of 6,183 pounds of milk in 8 months. There are evidently some treasures here, valuable cows worth all possible care and attention; while with a first-class creamery in operation there is every inducement to the farmers of the district to keep better dairy stock.

The figures given in herd 12 show the wide range of individual production in a period of 8 months. Cow No. 12, 7 years old, calving in April, gives only 124·5 pounds of butter fat, but cow No. 1, also 7 years old, calving a fortnight later, has 210·6 pounds of fat to her credit, just 86 pounds more. Leaving out the heifer, this herd may be said to contain 5 good, 3 medium and 4 poor cows. Such classification will probably fit a large number of dairy herds. Would it not pay better in every sense to concentrate energy and work with better material? The Babcock test is a wonderfully useful search light.

TABLE XXVII.—TOTAL PRODUCTION OF INDIVIDUAL COWS, ST. CAMILLE, QUE.

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months Tested.	Milk.	Fat.
						Lbs.	Lbs.
1	1	Grade	3	April 15, 1906..	4	2,035	99·1
	3	"	2	" 18, 1906..	4	2,480	118·7
	4	"	2	Mar. 16, 1906..	4	2,777	144·4
5	5	Canadian	3	April 13, 1906 .	4	1,635	59·8
	7	Durham	2	" 19, 1906..	4	1,850	73·9
	4	"	7	" 18, 1906 .	4	2,125	74·8
	3	Canadian	8	" 8, 1906..	4	2,135	77·1
	6	Durham	7	" 28, 1906..	4	1,940	80·8
	2	Grade Ayrshire	4	" 18, 1906..	4	2,215	89·9
	1	"	10	" —, 1906..	5	2,675	115·6
6	8	Hereford	8	May 17, 1906..	6	2,257	87·7
	2	¼ Jersey	4	April 21, 1906..	6	2,050	92·2
	5	Holstein	12	" 26, 1906..	6	2,400	96·5
	1	Hereford	10	" 20, 1906..	6	2,638	106·7
	4	Holstein	6	" 14, 1906..	6	2,888	108·0
	7	Canadian	10	" 27, 1906..	6	2,645	108·9
	6	"	4	May 16, 1906..	6	2,742	115·7
	3	Grade	7	" 7, 1906..	6	2,996	119·9

TABLE XXVII.—TOTAL PRODUCTION OF INDIVIDUAL COWS, ST. CAMILLE, QUE., —*Continued.*

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months Tested.	Milk.	Fat.
						Lbs.	Lbs.
7	4	½ Durham	6	May 22, 1906..	4	1,850	76·5
	3	"	4	April 30, 1906..	5	1,975	77·7
	2	"	9	May 3, 1906..	5	2,620	110·8
	1	"	5	Feb. 14, 1906..	6	3,535	150·4
8	9	Grade Durham		June —, 1906..	6	3,490	133·7
	3	"	2	April 5, 1906..	7	2,395	92·1
	6	"	5	Mar. 25, 1906..	7	3,400	118·9
	7	"	6	April 15, 1906..	7	3,620	118·9
	4	"	4	Mar. 10, 1906..	7	3,135	119·3
	2	"	8	" 15, 1906..	7	3,140	122·9
	1	"	6	" 23, 1906..	7	3,020	124·4
	8	"	6	April 5, 1906..	7	3,470	137·5
	5	"	7	Mar. 12, 1906..	7	3,680	146·6
9	5	Durham and Hereford	7	July 13, 1906..	4	2,230	154·5
	10	Grade Durham	2	May 30, 1906.	5	1,965	76·0
	9	"	2	" 3, 1906..	6	2,225	94·2
	14	Grade	2	" 4, 1906..	6	2,420	97·5
	2	Grade Durham	16	April 8, 1906..	6	2,500	101·1
	8	Grade	8	" 26, 1906..	6	2,937	110·1
	4	Durham and Hereford	10	" 30, 1906..	6	3,213	119·2
	3	" "	7	" 16, 1906..	6	3,127	119·3
	11	Grade Durham	3	" 13, 1906..	6	3,015	124·6
	13	Grade	11	" 28, 1906	6	2,795	127·5
	6	"	9	" 18, 1906..	6	3,585	130·1
	12	Grade Durham	10	" 10, 1906..	6	3,080	138·4
	7	Grade	7	May 18, 1906..	6	3,295	141·6
	1	Grade Durham	9	" 11, 1906..	6	4,039	150·4
10	8	"		April 15, 1906..	4	2,030	75·3
	6	"		" 25, 1906..	4	2,490	85·7
	11	Grade		Feb. 15, 1906..	4	2,020	89·5
	5	Grade Durham		April 12, 1906..	4	2,330	101·2
	7	"		" 26, 1906..	4	3,390	107·3
	4	"		" 13, 1906..	4	3,200	120·1
	3	"		" 12, 1906..	4	3,150	120·8
	9	"		" 14, 1906..	4	3,470	128·2
	1	"		" 18, 1906..	4	3,070	128·8
	2	"		" 15, 1906..	4	3,370	132·8
	15				7	2,180	111·5
	5			June 20, 1906..	7	3,278	132·5
	12	Durham and Canadian	7	April 20, 1906..	8	3,270	124·5
	14	" "	2	May 24, 1906..	8	3,192	127·2
	13	Grade	8	April 24, 1906..	8	3,950	133·7
	9	"	5	May 21, 1906..	8	3,566	136·7
	3	Grade Durham	6	Feb. 15, 1906..	8	3,300	138·6
	10	Durham and Canadian	8	April 24, 1906..	8	4,140	143·0
	11	Grade	12	May 14, 1906..	8	3,860	154·7
	7	"	5	" 5, 1906..	8	3,710	158·1
	2	Grade Durham	12	April 27, 1906..	8	3,590	161·6
	6	Grade	7	" 27, 1906..	8	4,310	162·3
	4	"	12	" 20, 1906..	8	4,280	167·0
	8	Ayrshire	7	May 3, 1906..	8	4,480	205·0
	1	Grade Durham	7	" 4, 1906..	8	4,890	210·6
13	4	Grade			5	2,100	88·8
	1	"			5	2,565	95·6
	2	"			5	2,565	104·3
	3	"			5	2,855	105·2
	5	"			5	2,940	114·6

TABLE XXVII. TOTAL PRODUCTION OF INDIVIDUAL COWS ST. CAMILLE, QUE.
—*Continued.*

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months Tested.	Milk.	Fat.
						Lbs.	Lbs.
14	2				4	1,595	72·8
	5				4	1,690	80·9
	4				4	2,065	93·0
	1				4	2,190	101·4
16	5	Grade Durham	8		5	3,060	116·5
	6	"	12		5	4,260	156·6
	3	"	5		6	3,650	128·4
	2	"	8		6	4,040	151·0
	8	"	5		6	4,280	155·1
	7	"	7		6	4,630	169·4
	1	"	6		6	4,550	176·5
	4	"	9		6	4,240	180·8
17	3		9	April 29, 1906..	8	3,380	133·7
	6		4	" 21, 1906..	8	3,625	143·6
	5		4	May 17, 1906..	8	3,616	144·6
	4		3	" 18, 1906..	8	3,135	152·2
	1		9	April 13, 1906..	8	3,800	167·8
	2		9	" 17, 1906..	.....	4,895	207·1
18	4		5	April 8, 1906..	5	1,770	78·9
	3		8	" 15, 1906..	5	1,780	80·7
	1		9	" 3, 1906..	5	2,010	87·5
	2		8	" 10, 1906..	5	2,145	93·3
	5		7	June 1, 1906..	5	2,410	103·2
	7		5	March 15, 1906..	5	2,295	105·0
	6		5	" 23, 1906..	5	2,320	110·8
19	9		10	April 16, 1906..	8	2,650	94·5
	10		13	" 29, 1906..	8	2,980	107·9
	11		7	May 15, 1906..	8	2,962	112 2
	6		9	March 24, 1906..	8	2,755	116·2
	8		13	April 7, 1906..	8	2,920	126·9
	2		7	March 18, 1906..	9	2,720	107·7
	5		5	" 23, 1906..	9	2,785	110·3
	3		3	" 20, 1906..	9	2,490	120·9
	1	Holstein	7	" 16, 1906..	9	3,150	127·5
	4		6	" 23, 1906..	9	3,115	129·9
20	6	Grade	3	May 24, 1906..	5	2,305	85·0
	1	"	4	April 8, 1906..	6	2,335	91·0
	4	"	12	" 30, 1906 .	6	2,720	95·7
	2	"	4	" 20, 1906..	6	2,740	107·8
	3	"	9	" 26, 1906..	6	2,975	119·5
	5	"	8	" 22, 1906..	6	3,292	139·1
22	10	Hereford	6		4	2,065	73·2
	8	Grade Durham	11		4	2,780	87·7
	5	"	9		4	2,435	94·5
	6	"	10		4	2,875	96·3
	3	"	7		4	2,780	101·6
	2	"	6		4	2,950	105·7
	1	"	10		4	3,320	108·0
	4	"	9		4	2,875	110·6
25	12	Grade Durham	4	April 28, 1906..	6	3,350	129·3
	7	Grade			7	3,930	117·9
	2	Grade Durham	10	March 1, 1906..	7	3,060	136·7
	5	Pure Durham	5	" 15, 1906..	7	3,410	144·4
	8	Grade	10	" 10, 1906..	7	3,905	146·0
	4	Grade Durham	5	" 1, 1906..	7	4,120	160 0
	6	Pure Durham	9		8	3,280	132·0

TABLE XXVII.—TOTAL PRODUCTION OF INDIVIDUAL COWS, ST. CAMILLE, QUE.
—*Concluded.*

Herd Number.	Cow Number.	Breed.	Aged.	Date of Calving.	Number of Months Tested.	Milk.	Fat.
						Lbs.	Lbs.
25	1	Grade Durham	4	April 15, 1906..	8	3,390	149·2
	11	"	4	May 1, 1906..	8	3,570	152·4
	9	Grade	6	April 30, 1906..	8	4,470	177·5
	3	Grade Durham	6	" 20, 1906..	8	4,290	181·6
	10	Grade	6	March 5, 1906..	8	4,140	182·8
27	6	Grade Durham		" 24, 1906..	5	2,937	111·8
	9	"		" 28, 1906..	5	2,880	111·8
	8	"		" 21, 1906..	6	3,155	116·2
	1	"		" 19, 1906..	6	2,995	117·4
	2	"		" 17, 1906..	6	3,630	122·1
	3	"		" 20, 1906..	6	3,452	127·3
	4	"		" 26, 1906..	6	3,853	132·4
	7	"		" 19, 1906..	6	3,197	132·8
	5	"		" 24, 1906..	6	3,619	136·2
28	1		4	April 17, 1906..	6	2,670	91·9
	5		15	" 10, 1906..	6	2,325	96·5
	2		9	" 25, 1906..	6	2,275	98·3
	6		4	" 17, 1906..	6	2,240	104·2
	4		10	" 20, 1906..	6	2,855	113·6
	3		14	" 17, 1906..	6	2,900	115·5
31	6	Grade	2	" 1, 1906.	5	1,540	61·9
	2	"	3	" 25, 1906..	5	1,845	75·1
	1	"	3	March 28, 1906..	5	2,505	97·5
	4	"	6	May 5, 1906..	5	2,550	101·2
	5	"	6	March 31, 1906..	5	2,845	113·8
	3	"	9	April 20, 1906..	5	2,965	117·8
32	3	Pure Durham	7	Feb. 1, 1906..	4	2,320	89·6
	2	"	6	April 3, 1906..	8	6,183	228·4
	1	"	4	" 6, 1906..	9	6,023	244·3

TABLE XXVIII.—AVERAGE YIELD—FOUR ASSOCIATIONS—1906, SIX MONTHS, MAY TO OCTOBER.

Association.	Number of Cows.	Average Yield.		Proportion of Cows Yielding.	
		lbs. Milk.	lbs. Fat.	150 lbs. Fat or over.	Less than 100 lbs. Fat (Average 90 lb.).
St. Camille	98	3,201	123	14 per cent.	18 per cent.
Lotbinière	119	3,268	132	27 "	12 "
St. Edwidge	251	3.540	143	36 "	4 "
North Oxford	209	4.828	163	66 "	1½ "

The aim of table XXVIII is to emphasize the difference in yield of butter fat in various localities. In St. Camille, Que., for instance, the members' records betoken the fact that only 14 per cent of the cows give 150 pounds of fat, or more, in 6 months; but at North Oxford, Ont., that percentage runs as high as 66. Conversely, at North Oxford only 1½ per cent of the cows give less than 100 pounds of fat, while at St. Camille 18 per cent are responsible for such a poor showing.

TABLE XXIX.—AVERAGE YIELDS OF 30 DAY PERIODS, 1906, LOTBINIERE, QUE.

30 days ending	Total number of Cows.	Average.		
		Pounds of Milk.	Test.	Pounds of Fat.
June 16	145	615	3·8	23·5
July 16	156	658	3·8	24 9
August 15	150	545	3·8	20·9
September 14	160	519	4·1	21·4
October 14	150	513	4·3	22·2
November 13	126	369	4·4	16·2
December 13	65	247	4·7	11·7

Lotbinière, Que.

The best individual record in this association is made by a cow in herd 8, which gave 5,220 pounds of milk in 6 months, beating any 7 months' performance of any cow. In the same herd is found the greatest difference between any two animals for 6 months in total yield of fat, a 9-year-old cow producing 64·8 pounds of fat less than the respectable yield of 208 pounds. This represents a difference of more than $16 in 6 months in the value of the butter from the two cows.

In the group of herds with 7 months' records that difference in total fat production is still more accentuated, where in herd 19 a 3-year-old gives 96 pounds of fat less than the best cow in that herd, or over $24 less return in 7 months. While in this association the low yields are mostly from young stock, two and three-year-olds, it should be remarked that there are also 6, 8, 9 and 12-year-olds in an undesirably conspicuous position. This indicates once more that recording and frequent testing are necessary to locate the animals with notoriously low production, otherwise they are bound to creep into herds and pull down the general average, while consuming feed that would yield a good cash income when fed judiciously to better stock.

TABLE XXX—TOTAL PRODUCTION OF INDIVIDUAL COWS, LOTBINIERE, QUE.

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months Tested.	Milk.	Fat.
						Lbs.	Lbs.
1	6	Ayrshire	5	April 20, 1906	5	2,950	113·9
	11	Grade	3	March 2, 1906	6	2,440	95·0
	5	"	7	April 25, 1906	6	3,010	113·5
	3	"	3	Dec. 26, 1905	6	2,860	122·1
	7	"	4	April 6, 1906	6	3,560	130·9
	10	"	5	May 15, 1906	6	3,850	142·2
	9	"	6	" 10, 1906	6	3,900	142·7
	8	"	12	April 16, 1906	6	3,990	144·1
	2	"	5	May 5, 1906	6	3,700	151·9
	1	"	12	June 9, 1906	6	4,265	155·4
	4	"	13	" 9, 1906	6	4,577	155·4
2	10	"	3	July 1, 1906	6	2,644	103·3
	3	"	6	April 28, 1906	6	2,920	105·7

TABLE XXX—TOTAL PRODUCTION OF INDIVIDUAL COWS, LOTBINIERE, QUE.
—*Continued.*

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months Tested.	Milk.	Fat.
						Lbs.	Lbs.
2	14	½ Ayrshire	2	March17, 1906..	7	2,305	104·7
	11	"	3	" 15, 1906..	7	2,720	107·2
	13	"	3	" 29, 1906..	7	2,560	111·6
	12	Ayrshire	3	" 13, 1906..	7	2,870	116·5
	9	Grade	4	" 14, 1906..	7	2,920	121·5
	8	"	4	May 14, 1906..	7	3,150	122·9
	5	"	5	March18, 1906..	7	3,005	126·9
	4	Ayrshire	5	" 15, 1906..	7	3,315	131·0
	2	Grade	7	April 1, 1906..	7	3,065	132·8
	6	"	5	" 23, 1906..	7	3,650	141·5
	1	"	11	" 14, 1906..	7	4,025	144·5
	7	"	5	May 17, 1906..	7	3,700	153·2
3	2		5	April 12, 1906..	4	1,365	56·2
	10		4	June 6, 1906	4	1,442	60·6
	8		2	May 23, 1906..	4	1,225	61·3
	7		4	March10, 1906..	4	1,433	65·9
	5		11	" 10, 1906..	4	1,540	67·7
	6		5	" 5, 1906..	4	1,623	69·8
	1		5	April 26, 1906..	4	1,575	70·2
	3		9	" 25, 1906..	4	1,750	79·2
4	5	Grade	7	" 29, 1906..	5	2,230	78·8
	3	"	6	" 26, 1906..	5	2,080	84·8
	7	"	7	" 2, 1906..	5	2,160	92·4
	8	"	3	March28, 1906..	6	2,200	84·8
	6	"	11	May 5, 1906..	6	2,430	96·3
	9	"	4	March25, 1906..	6	2,360	96·5
	1	"	5	May 5, 1906..	6	2,780	108·9
	4	"	5	April 10, 1906..	6	2,690	169·3
	2	"	5	" 10, 1906..	6	3,050	127·9
5	2	Grade Durham	12	June 9, 1906..	6	5,100	187·6
	8	Ayrshire	2	May 20, 1906..	7	2,789	107·8
	3	Canadian	5	April 15, 1906..	7	2,860	115·6
	9	Durham	2	May 15, 1906..	7	3,270	124·9
	7	Grade Ayrshire	6	March30, 1906..	7	3,350	133·6
	5	Grade Durham	3	May 12, 1906..	7	3,650	133·9
	6	Durham	5	March25, 1906..	7	3,460	139·2
	4	Grade Durham	8	April 27, 1906..	7	3,660	143·7
	1	Ayrshire	15	May 10, 1906..	7	4,190	161·4
6	10		2	April, 1906..	7	2,685	112·4
	7		3	March, 1906..	7	3,030	137·9
	9		2	April, 1906..	7	2,915	147·0
	2		7	" 1906..	7	3,390	154·3
	8		4	" 1906..	7	3,875	159·8
	5		3	May 16, 1906..	7	3,725	176·9
	4		7	April 1906..	7	3,820	178·1
	3		6	" 1906..	7	3,685	178·2
	6		4	June 5, 1906..	7	4,025	179·2
	1		5	March28, 1906..	7	3,900	179·2
7	5				4	990	43·4
	2	Grade	5	April 27, 1906..	5	2,680	162·9
	3	"	6	" 24, 1906..	5	2,580	104·0
	4	"	4	" 16, 1906.	5	2,670	106·5
	1	Canadian	6	May 1, 1906..	5	3,530	146·2
8	3	Ayrshire	9	April 16, 1906..	6	3,450	143·2
	1	"	4	" 12, 1906..	6	3,470	148·9
	4	"	4	" 14, 1906..	6	3,860	157·2
	2	"	9	" 15, 1906..	6	4,710	195·3
	5	"	6	" 16, 1906..	6	5,220	208·0

TABLE XXX.—TOTAL PRODUCTION OF INDIVIDUAL COWS, LOTBINIERE, QUE.—*Cont'*

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months Tested.	Milk.	Fat.
						Lbs.	Lbs.
9	10	Grade			5	2,550	97·8
	5	"			5	2,760	101·8
	6				5	2,750	102·9
	3				5	3,140	122·7
	2				5	3,070	122·9
	4				5	3,590	124·9
	9				5	3,290	126·7
	1				5	3,530	127·6
	7				5	3,440	130·0
	8				5	3,670	149·8
10	12	Grade Ayrshire	9	March 28, 1906..	5	4,790	211·1
	7	"	2	April 7, 1906..	6	2,790	112·9
	8	"	2	" 6, 1906 .	6	3,230	123·9
	3	"	3	March 27, 1906..	6	3,400	129·3
	4	"	3	" 29, 1906..	6	3,760	138·4
	10	"	4	April 9, 1906..	6	3,810	142 3
	5	"	5	March 29, 1906..	6	4,080	154·6
	1	"	5	" 20, 1906..	6	4,560	165·1
	9	"	6	April 10, 1906..	6	4,180	171·2
	2	"	8	March 18, 1906..	6	4,880	174·1
	11	"	5	Feb. 27, 1906..	6	4,090	178·7
	6	"	5	March 30, 1906..	6	4,560	188·8
12	6	Grade	8	May 15, 1906..	5	3,400	145·6
	1	"	6	April 8, 1906..	6	3,020	130·1
	3	"	4	" 18, 1906..	6	3,500	143·8
	5	"	3	May 11, 1906..	6	3,500	148·2
	2	"	5	April 14, 1906..	6	3,970	152·2
	4	"	9	" 27, 1906..	6	4,880	171·8
13	9	Grade	7	July 22, 1906..	5	2,388	88·9
	6	"	2	June 2, 1906..	6	1,735	83·8
	7	"	5	April 27, 1906..	6	2,705	118·4
	4	"	3	March 24, 1906..	7	2,230	100·5
	8	"	8	" .., 1905..	7	2,045	101·0
	11	"	8	April 5, 1906..	7	2,635	120·5
	1	"	8	March 27, 1906..	7	2,970	121·8
	10	"	6	April 10, 1906..	7	3,220	130·0
	5	"	5	May 20, 1906..	7	2,758	138·1
	2	"	15	" 22, 1906..	7	3,415	139·8
	3	"	8	" 23, 1906..	7	5,100	190·8
14	6	"	3	April 6, 1906..	6	3,110	126·7
	5	"	5	May 18, 1906..	6	3,590	128·7
	4	"	9	" 21, 1906..	6	3,374	130·9
	3	"	6	April 23, 1906..	6	3,695	140·6
	1	"	9	May 11, 1906..	6	3,815	142 6
	2	"	9	" 9, 1906..	6	4,180	155·7
15	8	"	2	March 1, 1906..	6	2,235	102·3
	7	"	4	April 2, 1906..	6	2,530	109·1
	3	"	2	March 2, 1906..	6	2,855	114·7
	6	"	5	" 12, 1906..	6	3,165	128·0
	2	"	7	June 2, 1906 .	6	3,908	130·5
	1	"	11	March 12, 1906..	6	3,985	146·8
	4	"	13	May 5, 1906..	6	4,070	159·0
	5	"	7	March 12, 1906..	6	4,395	161·1
16	1	"	3	" 20, 1906..	6	3,140	137·3
	5	"	7	April 10, 1906..	6	3,640	153·8
	8	"	9	" 25, 1906..	6	3,920	157·3
	3	"	4	March 25, 1906..	6	3,350	160·1
	9	"	13	April 28, 1906..	6	3,650	160·9

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TABLE XXX.—TOTAL PRODUCTION OF INDIVIDUAL COWS, LOTBINIERE, QUE.—*Concl.*

Herd Number.	Cow Number.	Breed.	Aged.	Date of Calving.	Number of Months Tested.	Milk.	Fat.
						Lbs.	Lbs
18	3	Grade	5	April 5, 1906..	6	3,949	169·1
	10	"	13	May 6, 1906..	6	4,110	169·3
	6	"	8	April 12, 1906..	6	3,900	171·4
	4	"	6	" 5, 1906..	6	3,790	173·0
	7	"	8	" 20, 1906..	6	3,910	174·4
18	8		6	" 13, 1906..	4	2,030	77·5
	4		11	Feb. 10, 1906..	5	1,850	69·1
	7		4	May 3, 1906..	5	1,730	72·4
	3		11	April 3, 1906..	5	2,010	75·4
	5		9	" 12, 1906..	5	1,860	76·0
	2		8	March 8, 1906..	5	2,070	79·8
	6		5	April 25, 1906..	5	1,920	81·7
	1		8	March — 1906..	5	2,510	96·2
19	10	Grade	3	April 17, 1906..	7	2,065	76·7
	8	"	3	March 18, 1906 .	7	2,270	95·9
	11	"	3	April 19, 1906..	7	2,325	100·4
	7	"	5	" 18, 1906..	7	2,850	104·6
	3	"	3	March 28, 1906..	7	2,405	109·4
	6	"	5	May 12, 1906..	7	2,725	111·7
	9	"	4	April 20, 1906..	7	2,665	118·4
	5	"	13	" 16, 1906..	7	2,875	118·7
	12	"	4	" 27, 1906..	7	3,265	125·9
	2	"	12	May 20, 1906..	7	3,413	129·7
	4	"	7	April 16, 1906..	7	3,045	134·8
	1	"	8	May 24, 1906..	7	3,817	172·7

Chicoutimi and Lake St. John Districts.

In the seven following associations grouped in the Chicoutimi and Lake St. John districts, there are but few records running for four and five months or over. The summer was particularly dry, and following the consequent shortage in crop, numbers of cows were disposed of.

One herd in particular is worthy of note, that of No. 5 in the Chicoutimi association, belonging to the Seminary. The 5 months' record of 37 cows indicates an average production of 2,753 pounds of milk and 113·4 pounds of fat. Among the other Quebec associations with 5 months' records, the nearest approach to this is at Mansonville, where 44 cows average 2,808 pounds of milk and 113·3 pounds of fat. Cowansville runs only 2,077 pounds of milk, the average of 49 cows; St. Armand has an average from 26 cows of 95·1 pounds of fat.

TABLE XXXI.—AVERAGE YIELDS OF 30 DAY PERIODS, CHICOUTIMI, QUE., 1906.

30 days ending.	Total No. of Cows.	Average.		
		Pounds of Milk.	Test.	Pounds of Fat.
July 23	154	718	3·7	27·0
August 22	136	596	3·8	22·6
September 21	118	481	4·3	21·0
October 21	116	352	4·6	16·3
November 20	141	281	4·6	13·1
December 18	109	218	5·0	11·0

TABLE XXXII.—TOTAL PRODUCTION OF INDIVIDUAL COWS, CHICOUTIMI, QUE.

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months Tested.	Milk.	Fat.
						Lbs.	Lbs.
1	6	Guernsey	7	April 15, 1906..	4	1,430	65·3
	4		12	" 25, 1906..	5	1,830	73·4
	3	Grade	3	" 10, 1906 .	5	1,680	74·9
	5	Canadian	13	" 20, 1906..	5	1,870	85·9
	2	Grade	10	" 10, 1906..	5	2,380	92·1
	1	"	10	May 5, 1906..	5	2,940	114·0
5	6	"	7		4	2,130	82·4
	41				4	2,290	89·4
	2	Jersey	6	April 12, 1906..	4	2,050	89·6
	5	Grade	7		4	2,520	94·2
	42				4	2,310	96·1
	16	Canadian	2		5	2,320	96·8
	29				5	2,570	97·9
	39	Canadian			5	2,710	99·4
	27	"			5	2,500	100·3
	18				5	2,680	103·7
	3	Brittany	7	March 25, 1906..	5	2,540	105·2
	22	Jersey	6		5	2,590	105·2
	32	Canadian	7		5	2,600	106·1
	8	"	4		5	2,610	107·1
	11	Grade			5	2,580	107·2
	40				5	2,770	107·5
	1	Ayrshire	4	Dec. 4, 1905.	5	2,490	107·7
	38	Canadian	4		5	2,730	109·4
	28	Grade Jersey	4		5	2,610	109·5
	15	Canadian	5		5	2,500	111·9
	25	"			5	2,830	112·0
	20	"	3		5	3,230	112·4
	21	"	5		5	2,830	112·5
	17				5	2,670	112·5
	14				5	2,780	114·1
	9				5	2,760	114·6
	31				5	2,650	115·5
	26	Canadian			5	2,750	115·7
	19	Brittany	9		5	2,720	115·7
	34				5	2,780	116·3
	23	Grade	3		5	2,760	118·1
	35				5	2,900	118·8
	24	Ayrshire			5	2,790	119·0
	12	Grade	7		5	2,710	119·1
	33				5	2,970	120·2

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TABLE XXXII.—TOTAL PRODUCTION OF INDIVIDUAL COWS, CHICOUTIMI, QUE.
—Continued.

Herd Number.	Cow Number.	Breed.	Aged.	Date of Calving.	Number of Months Tested.	Milk.	Fat.
						Lbs.	Lbs.
5	10	Grade	7		5	2,840	121·9
	13	"	7		5	3,040	124·3
	4		8		5	2,950	125·4
	7	Ayrshire	7		5	2,980	126·0
	37				5	3,120	126·0
	36	Ayrshire	6		5	2,850	129·9
	39				5	3,160	131·0
21	9	Grade	11	Farrow	4	1,235	50·4
	5	"	6	March 27, 1906..	4	1,690	64·3
	11	"	7	April 24, 1906..	4	1,849	73·1
	8	"	7	June 15, 1906..	4	1,970	81·4
	24	"	3	April 29, 1906..	5	1,540	70·0
	6	"	5	March 15, 1906..	5	1,975	90·4
	2	"	6	" 20, 1906..	6	1,923	82·2
	18	"	4	May 30, 1906..	6	1,985	83·4
	23	"	3	March 8, 1906..	6	1,790	85·7
	15	"	5	" 12, 1906..	6	1,860	86·3
	25	"	4	April 18, 1906..	6	1,965	89·7
	13	"	7	" 2, 1906..	6	2,265	93·2
	1	"	13	March 25, 1906..	6	2,340	94·6
	16	"	5	" 15, 1906..	6	2,225	95·5
	14	"	6	April 24, 1906..	6	2,505	98·4
	21	"	9	" 10, 1906..	6	2,610	103·7
	4	"	8	" 3, 1906..	6	2,655	103·9
	12	"	7	May 6, 1906..	6	2,365	104·4
	10	"	7	April 30, 1906..	6	2,485	110·5
	19	"	2	May 30, 1906..	7	1,552	67·9
	20	"	2	June 5, 1906..	7	1,617	71·0
	22	"	2	" 12, 1906..	7	2,117	83·4
	7	"	4	March 15, 1906..	7	2,785	115·4
	17	"	10	May 18, 1906..	7	3,375	131·3
	3	"	8	June 15, 1906..	7	3,242	148·2
22	10				5	1,310	58·3
	9				7	2,175	86·2
	2				7	2,265	92·2
	11				7	2,330	92·5
	12				7	2,800	101·6
	14				7	2,505	102·9
	5				7	2,395	104·2
	3				7	2,630	107·5
	1				7	2,435	113·2
	4				7	2,670	113·8
	13				7	2,850	122·2
	6				7	2,930	124·8
	8				7	3,940	131·3
	7				7	4,170	164·5
24	10				5	2,005	76·1
	5				5	2,385	81·7
	4				5	2,080	84·2
	8				5	1,940	84·4
	7				5	2,400	90·8
	3				5	2,450	92·8
	1				5	2,535	96·0
	9				5	3,110	118·2
27	8	Grade	7	May 8, 1906..	5	2,110	100·0
	10	"	10	June 28, 1906..	5	2,385	105·8
	3	"	13	" 25, 1906..	5	2,910	128·9
	6	"	10	April 17, 1906..	6	2,495	103·2

TABLE XXXII.—TOTAL PRODUCTION OF INDIVIDUAL COWS, CHICOUTIMI, QUE.
Concluded.

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months Tested.	Milk.	Fat.
						Lbs.	Lbs.
27	17	"	9	May 6, 1906..	6	2,405	107·9
	11	"	8	" 6, 1906..	6	2,485	109·1
	5	"	9	April 25, 1906..	6	2,565	110·9
	1	"	4	" 15, 1906..	6	2,365	112·2
	7	"	11	May 1, 1906..	6	3,015	113 7
	14	"	9	" 14, 1906..	6	2,610	114·5
	15	"	13	April 19, 1906..	6	2,830	118·7
	2	"	4	" 18, 1906..	6	2,355	120·5
	18	"	8	May 12, 1906..	6	2,470	122 2
	13	"	14	April 30, 1906..	6	3,080	124·9
	12	"	10	May 10, 1906..	6	2,970	126·0
	4	"	6	" 25, 1906..	6	2,810	130·7
	16	"	9	April 19, 1906..	6	3,030	131·0
	9	"	8	June 27, 1906..	6	3,100	135·5
28	6		9	April 4, 1906 .	5	1,750	69 5
	3		11	" 16, 1906..	5	1,670	71·5
	1		13	" 4, 1906..	5	2,530	117·6
	10		3	" 2, 1906..	6	1,540	63·6
	7		6	March 4, 1906..	6	2,090	85·2
	2		13	" 15, 1906..	6	2,330	91·5
	5		9	April 10, 1906..	6	2,400	99·7
	4		11	" 19, 1906..	6	2,450	101 3
	8		10	" 16, 1906..	6	2,630	112·7
	9		7	" 16, 1906..	6	2,550	122·6

TABLE XXXIII.—AVERAGE YIELDS OF THIRTY DAY PERIODS, BAGOTVILLE (ST. ALPHONSE), QUE. 1906,

30 days ending.	Total Number of Cows.	Average.		
		Pounds of Milk.	Test.	Pounds of Fat.
July 16	250	767	3·6	27·6
August 15	150	582	3·6	21·1
September 14	73	494	3·9	19·5
October 14	82	455	4·4	20·1
November 13	191	312	4·8	15·1
December 13	60	265	5·2	13·9

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TABLE XXXIV.—TOTAL PRODUCTION OF INDIVIDUAL COWS, BAGOTVILLE, QUE.

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months Tested.	Milk.	Fat.
						Lbs.	Lbs.
1	3				4	1,735	66·3
	7				4	1,710	69·3
	4			May .., 1906..	4	2,090	72·6
	6				4	2,070	73·0
	15				4	1,950	73·4
	2				4	1,810	73·6
	17				4	1,730	74·9
	10				4	1,830	77·4
	9				4	2,250	79·0
	16				4	2,050	84·7
	13				4	2,400	86·7
	14				4	2,175	89·1
	11				4	2,005	89·3
	5				4	2,200	90·0
	18				4	2,460	92·4
	8			Jan. 8, 1906..	4	2,500	94·4
	12				4	2,280	97·2
	1				4	2,380	104·4
6	7				4	1,135	53·0
	3				4	1,385	56·9
	1				4	1,470	60·5
	5				4	1,460	61·0
	2				4	1,485	61·1
	6				4	1,365	62·6
	4				4	1,385	63·1
	9				4	1,440	64·6
	8				4	1,415	65·7
11	6				4	1,050	48·5
	9				4	1,570	64·9
	1				4	1,620	66·9
	2				4	1,490	67·2
	10				4	1,560	67·8
	4				4	1,730	69·7
	8				4	1,700	71·2
	5				4	1,790	75·3
	7				4	1,910	77·4
	3				4	1,730	78·4
20	16	Ayrshire	11	June 10, 1906..	5	2,350	97·3
	17	Canadian	16	April 10, 1906..	5	2,705	103·2
	13	"	8	May 7, 1906..	5	2,415	103·7
	1	Ayrshire	8	April 20, 1906..	6	2,965	108·1
	12	"	4	March 13, 1906..	6	2,830	109·5
	6	Canadian	13	May 18, 1906..	6	2,710	111·9
	7	"	3	April 10, 1906..	6	3,245	115·8
	5	"	8	May 22, 1906..	6	2,775	118·5
	11	"	4	April 14, 1906..	6	3,075	121·8
	2	"	10	" 28, 1906..	6	2,925	122·3
	8	"	6	May 2, 1906..	6	3,290	125·8
	10	Ayrshire	8	April 8, 1906..	6	3,455	129·7
	4	Grade	13	May 8, 1906..	6	3,760	132·4
	9	Ayrshire	7	April 19, 1906..	6	2,985	132·5
	15	Canadian	6	May 11, 1906..	6	2,855	133·2
	3	Durham	12	April 2, 1906..	6	3,525	137·5
	14	Ayrshire	10	March 10, 1906..	6	3,790	171·1
23	4		9	June .., 1906..	4	2,020	79·6
	22				4	1,800	88·7
	23				4	2,330	90·5
	21				4	1,930	96·5
	3		3	June 8, 1906..	5	2,500	94·4

TABLE XXXIV.—TOTAL PRODUCTION OF INDIVIDUAL COWS, BAGOTVILLE, QUE.
—Concluded.

Herd Number.	Cow Number.	Breed.	Aged.	Date of Calving.	Number of Months Tested.	Milk.	Fat.
						Lbs.	Lbs.
23	9		8	April 15, 1906	5	3,050	102·5
	6		4	" 20, 1906	5	2,700	106·2
	18		10	May 12, 1906	5	2,780	107·9
	13		3	" 8, 1906	5	2,960	108·1
	16		9	" 22, 1906	5	2,980	109·4
	8		16	April 15, 1906	5	3,110	110·5
	14		6	May 10, 1906	5	2,870	111·9
	7		7	April 20, 1906	5	2,910	114·7
	17		5	" 16, 1906	5	2,850	117·5
	2		5	May 15, 1906	5	2,900	120·7
	15		8	" 20, 1906	5	2,660	124·0
	10		9	April 16, 1906	5	2,830	124·2
	12		9	May 7, 1906	5	3,840	135·2
	11		7	" 7, 1907	5	3,200	137·8
	1		10	June 3, 1906	5	3,740	143·5
	5		6	March 9, 1906	5	3,460	156·6

SAMPLE OF SUMMARY SENT EVERY 30 DAYS TO EACH MEMBER OF ALL ASSOCIATIONS.

DOMINION DEPARTMENT OF AGRICULTURE, DAIRY COMMISSIONER'S BRANCH.

Cow Testing Associations.

The first test at Bagotville gives the very fair average of 27·6 pounds of fat per cow. The two largest herds of 34 and 37 cows are both above this average, proving what may be obtained through careful selection. Herd No. 23 has the highest average yield of milk; the lowest individual yield being 690 pounds.

It is satisfactory to note the individual records of 1,100 pounds of milk and over, which throw up in relief the 320-pound cow.

BAGOTVILLE, QUE.—LAKE ST. JOHN DISTRICT.—30 DAYS ENDING JULY, 16 1906.

Herd Number.	Number of Cows.	Herd Average.			Highest Individual Milk Yield.		Lowest Individual Milk Yield.	
		Milk.	Test.	Fat.	Lbs.	Testing.	Lbs.	Testing.
		Lbs.		Lbs.				
1	34	868	3·5	31·1	1,250	3·6	570	3·6
7	18	671	3·6	23·8	890	4·1	420	4·0
8	16	855	3·6	30·7	1,155	3·2	490	4·3
9	37	752	3·7	27·9	1,280	3·4	405	4·2
10	10	836	3·7	31·3	930	4·2	660	3·8
11	10	566	3·8	21·7	720	3·5	360	3·8
12	16	610	3·6	21·9	840	3·9	370	3·6
13	3	703	3·7	26·2	790	3·9	640	4·0
14	23	661	3·7	24·4	930	3·2	320	3·7
15	3	667	3·4	23·2	710	3·4	600	3·2
17	14	710	3·6	25·8	980	3·1	520	4·4
20	16	831	3·6	28·9	1,110	3·4	630	3·6
23	18	929	3·5	31·1	1,330	3·0	690	3·4
26	14	887	3·7	32·7	1,150	3·6	670	4·0
27	18	750	3·4	26·0	890	3·2	540	3·2

Number of cows tested, 250; average yield of milk, 767 pounds; average test, 3·6; average yield of fat, 27·6 pounds.

OTTAWA, July 26, 1906.

TABLE XXXV.—AVERAGE YIELDS OF 30 DAY PERIODS, 1906, LATERRIERE, QUE.

30 days ending.	Total number of Cows.	Average.		
		Pounds of Milk.	Test	Pounds of Fat.
July 9	28	713	3·7	26·9
August 8	24	578	3·6	21·3
September 7	29	465	4·0	18·9
October 7	9	400	4·3	17·7

Most of the records in this association covered a period of only two or three months.

TABLE XXXVI.—TOTAL PRODUCTION OF INDIVIDUAL COWS, LATERRIERE, QUE.

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months tested.	Milk.	Fat.
						Lbs.	Lbs.
8	2		8		4	1,710	63·3
	4				4	1,960	72·3
	3		8		4	1,975	76·2
	1		5		4	1,970	84·9

TABLE XXXVII.—AVERAGE YIELDS OF 30 DAY PERIODS, ST. FELICIEN, QUE., 1906.

30 days ending	Total number of Cows.	Average.		
		Pounds of Milk.	Test.	Pounds of Fat.
July 2	70	614	3·8	23·4
August 1	35	578	3·7	21·5
" 31	59	545	3·7	20·5
September 30	57	436	4·1	17·9
October 30	64	303	4·5	13·6

TABLE XXXVIII.—TOTAL PRODUCTION OF INDIVIDUAL COWS, ST. FELICIEN, QUE.

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months tested.	Milk.	Fat.
						Lbs.	Lbs.
2	4	Grade	3	June 7, 1905..	5	2,270	81·5
	5	"	3	June 28, 1905..	5	2,200	89·4
	6	"	5	Feb. 20, 1906..	5	2,120	91·1
	2	"	8	April 8, 1906..	5	2,570	91·3
	3	"	8	" 2, 1906..	5	2,460	98·6
	1	"	5	" 17, 1906..	5	2,700	122·1
4	7	Canadian	3	March 20, 1906..	5	1,885	73·5
	8	"	3	April 18, 1906..	5	1,725	74·5
	1	"	13	March 18, 1906..	5	2,155	82·0
	4	"	5	April 20, 1906..	5	2,105	85·9
	5	"	4	" 15, 1906..	5	2,120	87·2
	6	"	4	" 18, 1906..	5	2,095	88·5
	3	"	8	March 4, 1906..	5	2,820	103·9
	2	"	9	" 12, 1906..	5	2,655	109 6
6	5	Ayrshire		" 1906..	5	1,690	68·7
	4	Grade		" 1906..	5	2,090	85·1
	6	Ayrshire		" 1906..	5	2,120	85·7
	2	Grade		" 1906..	5	2,250	88·2
	3	"		" 1906..	5	2,090	95·8
	1	"		" 1906..	5	2,190	96·2

TABLE XXXIX.—AVERAGE YIELDS OF 30 DAY PERIODS, NORMANDIN, QUE., 1906.

30 days ending.	Total number of Cows.	Average.		
		Pounds of Milk.	Test.	Pounds of Fat.
July 9	45	743	3·9	29·1
Aug. 8	47	623	3·9	24·8
Sept. 7	26	484	3·9	19·2
Oct. 7	41	502	3·9	19·7
Nov. 6	26	393	4·5	18·0
Dec. 6	36	276	5·4	15·1

TABLE XL.—TOTAL PRODUCTION OF INDIVIDUAL COWS, NORMANDIN, QUE.

Herd Number.	Number Cow.	Breed.	Age.	Date of Calving.	Number of Months Tested.	Milk.	Fat.
						Lbs.	Lbs.
1	5	Grade	6	April 4, 1906..	4	2,320	101·1
	7	"	4	" 3, 1906..	4	2,440	104·8
	3	Canadian	6	.....	4	2,530	122·6
	8	"	7	April 10, 1906..	4	3,090	125·7
	4	Ayrshire	8	March 20, 1906..	4	3,030	126·2
3	6	Grade	3	April 15, 1906..	4	2,010	78·5
	5	"	6	" 2, 1906..	4	2,140	84·8
	1	"	4	March 15, 1906..	4	2,085	86·5
	3	"	7	" 30, 1906..	4	2,370	89·1
	9	"	6	May 12, 1906..	4	2,190	90·4
	4	"	9	June 15, 1906..	4	2,645	90·9
	10	"	6	April 25, 1906..	4	2,045	91·7
	8	Brittany	7	" 16, 1906..	4	2,180	94·9
	7	Grade	3	" 28, 1906..	4	2,070	96·8
	2	"	7	March 29, 1906..	4	2,395	105·4
6	5	Canadian	4	April 1, 1906..	6	2,275	105·4
	4	"	5	" 8, 1906..	6	2,470	109·2
	3	"	5	" 17, 1906..	6	3,290	134 7
	2	Grade	6	" 22, 1906..	6	3,610	137 6
	1	Canadian	7	March 22, 1906..	6	3,540	146·7
8	4	Grade	3	April 28, 1906..	5	1,715	62·8
	5	"	3	" 30, 1906..	5	1,425	65·9
	6	"	8	May 1, 1906..	5	2,182	84·7
	2	Jersey	6	April 21, 1906 .	5	2,307	85·3
	3	"	8	" 21, 1906..	5	2,330	86·1
	7	Grade	7	May 22, 1906..	5	2,167	90·3
	1	"	6	April 17, 1905 .	5	2,195	94·1
16	4	Canadian	..	Oct. 20, 1905..	5	2,340	112·5
	3	"	.....	April 25, 1906..	6	3,370	139·1
	2	"	....	June 17, 1906..	6	3,755	160·8
	1	"	. ....	June 16, 1906..	6	4,020	162·9

TABLE XLI.—AVERAGE YIELDS OF THIRTY DAY PERIODS, RIVIÈRE À L'OURS (ST AMBROISE), QUE. 1906.

30 days ending	Total number of Cows.	Average.		
		Pounds of Milk.	Test.	Pounds of Fat.
July 16	112	474	3·8	18·3
August 15	60	421	4·0	16·8
September 14	66	352	3·9	14·0
November 13	105	150	5·6	8·4
December 13	43	87	6·0	5·3

TABLE XLII.—TOTAL PRODUCTION OF INDIVIDUAL COWS, RIVIÈRE À L'OURS, QUE

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months tested.	Milk.	Fat.
						Lbs.	Lbs.
1	5	Ayrshire		April 8, 1906..	5	1,750	70·4
	3	"		" 20, 1906..	5	2,110	78·4
	6	"		" 12, 1906..	5	1,950	86·2
	4	"		" 17, 1906..	5	2,280	86·2
	2	Canadian		March 15, 1906..	5	1,780	88·7
	1	"		" 20, 1906..	5	1,970	88·9
2	7	Grade	5	" 3, 1906..	4	900	43·2
	2	Canadian	8	May 20, 1906..	4	1,285	51·8
	5	"	7	" 25, 1906..	4	1,280	55·2
	1	"	10	April 8, 1906..	4	1,510	57·0
6	8	Grade			5	1,015	43·6
	5	"			5	1,100	49·5
	6	"			5	1,430	50·8
	3	"			5	1,430	56·6
	7	"			5	1,400	57·3
	2	"			5	1,565	62·0
	4	"			5	1,510	63·0
	1	"			5	1,545	63·7
14	4	"			4	1,270	54·6
	3				5	1,440	54·1
	1				5	2,060	82·1
	2	Canadian			5	2,080	82·6
16	9				4	980	45·1
	15				4	960	46·4
	16				4	1,145	49·3
	12				4	1,170	51·3
	8				4	1,190	53·3
	11				4	1,235	56·9
	2				4	1,240	57·0
	13				4	1,165	57·3
	5				4	1,170	58·7
	17				4	1,255	61·1
	7				4	1,280	61·8
	3				4	1,285	63·2
	10				4	1,285	63·5
	18				4	1,390	65·1
	6				4	1,300	73·3
	1				4	1,670	75·4
	4				4	1,535	76·6
17	4	Canadian	11	May 18, 1906..	4	1,130	47·9
	6	"	8	April 22, 1906..	4	1,250	49·0
	5	"	6	May 2, 1906..	4	1,225	52·0
	3	"	4	June 29, 1906..	4	1,210	53·0
	2	"	3	April 20, 1906..	4	1,190	54·0
	1	"	3	Feb. 20, 1906..	4	1,295	56·9
	7	"	5	May 8, 1906..	4	1,270	57·1

TABLE XLIII. AVERAGE YIELDS OF 30 DAY PERIODS, LA DECHARGE, (ST. CHARLES), QUE., 1906.

30 days ending	Total No. of Cows.	Average		
		Pounds of Milk.	Test.	Pounds of Fat.
Aug. 22	60	400	4·1	16·4
Sept. 21	36	335	4·1	14·0
Nov. 20	104	151	5·8	8·8
Dec. 20	50	106	6·3	6·4

TABLE XLIV. TOTAL PRODUCTION OF INDIVIDUAL COWS, LA DÉCHARGE, QUE., 1906.

Herd Number.	Cow Number.	Breed.	Age.	Date of Calving.	Number of Months Tested.	Milk.	Fat.
						Lbs.	Lbs.
4	5	Canadian			4	900	41·1
	6	"			4	950	43·4
	3	"			4	970	43·8
	7	"			4	1,100	44·2
	4	"			4	1,030	45·3
	8	"			4	1,270	54·1
18	5	Grade Ayrshire	6		4	885	40·9
	4	"	7		4	955	47·0
	1	"	11		4	1,235	49·2
	2	"	10		4	1,190	50·4
	3	"	9		4	910	53·3

In addition to the above regularly organized associations, some further work was undertaken on the request of some farmers for a short time at Culloden, Ont., and Jonquières, Que. The results are tabulated below.

TABLE XLV. AVERAGE YIELDS OF 30 DAY PERIODS, CULLODEN, ONT., 1906.

30 days ending	Total No. of Cows.	Average		
		Pounds of Milk.	Test.	Pounds of Fat.
Aug. 17	47	711	3·3	23·9
Sept. 18	48	693	3·5	24·3
Oct. 18	38	581	3·7	21·8

TABLE XLVI. AVERAGE YIELDS OF 30 DAY PERIODS, JONQUIERES, QUE., 1906.

0 days ending	Total No. of Cows.	Average		
		Pounds of Milk.	Test.	Pounds of Fat.
Nov. 27	48	175	5·3	9 3
Dec. 26	32	127	5·7	7 2

SOME GENERAL CONCLUSIONS.

Some of the more important points revealed by a careful scrutiny of the individual yields are:—

In order to ascertain the value of a cow it is necessary to test as well as weigh her milk. Frequently there is a gross difference of 50 pounds of fat in the milk of two cows giving 4,300 pounds of milk each. Butter fat is the valuable constituent of milk

Many farmers are not only working hard, but working overtime unnecessarily, through keeping 12 cows when 7 would yield as much milk and butter fat.

Cows of mature age lower the average production of a herd just as often as heifers. Many cows are evidently kept too long.

Because his brother farmers in Ontario and Quebec are keeping (*a*) cows that yield 247 pounds of fat in 7 months, (*b*) cows that earn $66 in 8 months, there is every reason why the 'average farmer' should feel greatly encouraged in the effort to improve his stock.

Careful selection of good individuals, intelligent breeding to sires of proven worth, and liberal feeding, are the sure foundation stones in building up a profitable dairy herd.

Systematic weeding will speedily increase the average production of the herd. In one lot of 29 cows, no fewer than 11 of them yielded 20 pounds of fat below the average for the season.

If a dairy herd has a certain 'average' production of milk and butter fat, it follows necessarily that some individual cows in the herd must be below that average, while others must be above it. The work of these associations indicates unmistakably that it pays the ordinary farmer, and pays him well, to keep records of each single cow in order that those below the average may be detected. There is no other way of discovering them. Then should follow better care, better breeding, better management, better feeding; so that those above the average may be maintained in that enviable position and still further improved. Information alone will not effect a reformation. Succeeding a careful scrutiny of the individual records there must be intelligent action. Then the ordinary factory patron will reap a good harvest, not only in augmented income from the same number of cows, or even not so many; but, in the vastly increased satisfaction, interest and stimulation that improved stock and improved methods will bring.

PART II.—REPORT OF THE ASSISTANT DAIRY COMMISSIONER.

St. Denis (En Bas),
County of Kamouraska, P.Q., March 31, 1907.

Mr. J. A. Ruddick,
Dairy and Cold Storage Commissioner,
Ottawa.

Sir,—I beg leave to present you my seventeenth report as Assistant Dairy Commissioner. My last report covered the whole of the year 1905. The present one, on account of the change in our Dominion fiscal year, which now ends with March, covers a period of fifteen months, beginning on January 1, 1906, and ending on this date.

SUMMARY OF WORK.

During the past fifteen months I have made 125 visits to 75 localities, in 29 counties of Ontario and Quebec. I have delivered 364 lectures before 21,286 persons, of whom 960 were cheese and butter makers. Exclusive of the lectures delivered before the students of the provincial dairy school at St. Hyacinthe, Que., the average attendance at those lectures was 77 persons. Of the 75 localities I visited 31 for the first time in my capacity as Assistant Dairy Commissioner. I have travelled 12,873 miles to perform my work.

The following is a list of the counties and localities in which I have delivered lectures, with reference letters indicating the purpose of the meetings. (See end of list.)

TABLE OF VISITS AND LECTURES.

Province of Ontario.

Counties.	Localities.	Visits.	Lectures.	Reference letters.
Algoma	Chelmsford	1	1	*d*
	Rayside	1	1	*d*
Nipissing	Blezard Valley	1	1	*d*
	Capreol	1	1	*d*
	Hanmer	1	1	*d*
	"	1	....	*b*
	Monetteville	1	1	*d*
	Sturgeon Falls	1	1	*d*
	Verner	1	1	*d*, *b*
	"	1	.....	*h*
	Warren	1	1	*d*
	"	1	....	*b*
	"	....	1	*d*, *f*
Carleton	Ottawa	1	1	*a*
	"	1	1	*a*, *f*

Province of Quebec.

Arthabasca	Arthabaskaville	1	3	*b*
	Stanfold	1	3	*b*
Bagot	Acton Vale	1	2	*b*
	Ste. Hélène	1	2	*b*
Bellechasse	Honfleur	1	2	*h*
	St. Charles	3	5	*h*
	"	....	1	*b*
	St. Damien	1	2	*h*
	St. Gervais	1	2	*h*
	St. Lazare	1	2	*h*
	St. Valier	1	2	*h*

Counties.	Localities.	Visits.	Lectures.	Reference letters.
Bonaventure	Bonaventure	1	1	*b*
	Maria	1	1	*b*
	"	1		*h*
	New Richmond	1	1	*b*
	"		1	*b, f*
	Paspébiac	1	1	*b*
	Port Daniel	1	1	*b*
	St. Jean l'Evangéliste	1	1	*b*
Brome	Knowlton	1	1	*a, f*
Chambly	St. Basile le Grand	1	2	*b*
Champlain	Champlain	1	3	*b*
	Ste. Anne de la Pérade	1	5	*b*
Dorchester	St. Anselme	2	4	*h*
	Ste. Hénédine	2	4	*b, h*
Drummond	St. Germain	1	2	*b*
Gaspé	Cap Chat	2	1	*b, h*
	Grande Rivière	1	1	*b*
	Percé	1	1	*b*
	Ste. Anne des Monts	1	1	*b*
L'Assomption	St. Henri de Mascouche	1	2	*h*
	St. Lin	1	1	*a*
	"	6	11	*h*
	"		1	*b*
	St. Roch	2	4	*h*
Lévis	St. Henri	1	3	*h*
	"	2	4	*h*
	St. Lambert	1	1	*h*
L'Islet	L'Islet	1	1	*c*
Matane	Matane	1	1	*b*
	"	1		*h*
	Sandy Bay	1	1	*b*
	"	1		*b*
	Ste. Félicité	1	1	*h*
Megantic	Plessisville	1	3	*b*
Missisquoi	Dunham	1	1	*d*
Montcalm	St. Alexis	1	2	*h*
	St. Calixte	6	12	*h*
	St. Esprit	2	4	*h*
	St. Jacques	3	6	*h*
	Ste. Julienne	2	4	*h*
Montmagny	Berthier	1	2	*h*
	St. Pierre	2	4	*h*
	St. Thomas	2	4	*h*
Portneuf	Cap Santé	1	3	*b*
	St. Casimir	1	3	*b*
	St. Raymond	1	3	*b*
Quebec	Ancienne Lorette	1	3	*b*
	Beauport	1	3	*b*
	Charlesbourg	1	3	*b*
	Jeune Lorette	1	3	*b*
St. Hyacinthe	St. Hyacinthe	1	2	*a*
	"		1	*c*
	"	10	142	*a, e*
	"	2	22	*a, c, f*
	"	1	1	*b*
	Ste. Madeleine	1	2	*b*
Shefford	Adamsville	1	1	*e*
	"		1	*c, f*
	Roxton Falls	1	3	*b*
	Waterloo	1	1	*c*
	West Shefford	1	1	*e*
	"		1	*c, f*
Témiscouata	L'Isle Verte	1	1	*b*
Terrebonne	New Glasgow	1	2	*h, f*
	Ste. Anne des Plaines	3	6	*h*
	Ste. Sophie	4	8	*h*
Two Mountains	La Trappe, Oka	1	2	*a*
Yamaska	St. Guillaume	1	2	*b*

Reference letters indicate :—

(*a*) Provincial and federal conventions and courses. (*b*) County and district conventions. (*c*) Farmers' clubs meetings. (*d*) Parish meetings. (*e*) St. Hyacinthe Dairy School. (*f*) English lectures. (*h*) Factory inspections and lectures.

The foregoing table shows that I have delivered (*a*) 7 lectures at provincial or federal conventions (not including the provincial courses at the St. Hyacinthe Dairy School); (*b*) 77 at county and district meetings; (*c*) 7 before farmers' clubs; (*d*) 11 at parish meetings; (*e*) 164 before the students of the St. Hyacinthe Dairy School; (*f*) 30 in English; and that I have made 61 factory inspections, in the course of which I have delivered 102 lectures to the factory patrons.

PROVINCIAL AND FEDERAL CONVENTIONS.

The first of the provincial and federal conventions I attended during the last fifteen months was the annual convention of the Province of Quebec Dairymen's Association, held at St. Lin, L'Assomption county, on January 23 and 24, 1906. At that convention I delivered a lecture on 'The International Dairy Congress of 1905.' I shall not give here even a summary of my lecture, as most of the reports of that congress, held in Paris, France, in October, 1905, have been published in many French and English dairy periodicals. I, nevertheless, wish to note the fact that at that congress Canada had the honour of being mentioned as having perfected a new process of buttermaking with fresh cream, without leaving it to ripen for twenty-four hours, as is generally done in the old process.

The next convention I attended was the Second Convention of Fruit Growers of the Dominion of Canada, held at Ottawa, March 20, 21 and 22, 1906. At the request of the Hon. Mr. Fisher, I delivered at that convention a short address on the experimental work done in fruit growing in the province of Quebec. It runs as follows:—

EXPERIMENTAL WORK IN FRUIT GROWING.

'It is only within the last fifteen years that we have been carrying on regular official experimental work in connection with fruit growing in the province of Quebec. Before that time very valuable work was done by Mr. Charles Gibb, of Abbotsford; by Mr. Auguste Dupuis, the first fruit grower to establish a nursery in eastern Quebec, which he did in the early sixties, at Village des Aulnaies; by the reverend Trappist Fathers, or Silent Monks of Oka, who have been very successful in fruit culture for the last twenty years, and by the Rev. Abbé Provencher, of Cap Rouge, near Quebec, a naturalist of great distinction, who has written the first, and a very good, manual in French on orchard culture. The experimental work of these pioneers of fruit culture covered a period of about forty-five years, from 1860. But this was only local work.

'Our provincial Pomological Society acted wisely when, in 1906, it presented a memorandum to our Quebec Department of Agriculture, asking for the establishment of a number of fruit experimental stations. They are doing splendid work. Twenty-five years ago we thought that fruit would not grow on grafted apple trees in the greater part of our province, especially in the eastern section. All we had in the eastern districts, below the city of Quebec, was the plums and cherries imported by the first settlers. Since the beginning of the experimental work of the fruit growers named above, and the establishment of our fruit stations, we have been growing fruit that we never thought would grow. We have fruit experiment stations in the counties of Beauce, Charlevoix, Chicoutimi, Compton, Gaspé, L'Islet, Montmorency, Quebec, Rimouski, Shefford, Temiscouata and Terrebonne. In my own section, Kamouraska district, where twenty-five years ago we had only seedling apple trees, four or five varieties of plums and one of cherries, we now grow forty-two varieties of apples, twenty-seven of plums and twelve of cherries. We grow more varieties of plums than they do in the island of Montreal or in eastern Ontario. Mr. Dupuis, the director of the fruit experimental stations, grows many more varieties than that, and all in his nursery as well as in my orchard are giving an abundance of fruit of good quality.

Our best friend in the eastern section of the province of Quebec is snow. We have plenty of it during the whole winter, often as much as four feet. It proves a good thing for our trees, and the result is that we have trees growing which would not grow in eastern Ontario. The experimental work of our fruit stations is conducted by the Department of Agriculture at a very small cost.

'The report of these stations is published in the general report of the Quebec Department of Agriculture. A large part of our experimental work is also published in the reports of the Provincial Pomological Society, which is doing good work for our province. This society has not a very large membership, but its members are workers. They are carrying on experimental work in every part of the province, and their work is certainly equal to that of the fruit experiment stations of the other provinces of the Dominion as well as of ours. We hope that, before long, the western part of the province will be able to export large quantities of fruit and that the eastern part will grow sufficient for local consumption.

'What I have said is enough to show that we are doing good work and that we are endeavouring to keep up with the other provinces as far as climate will allow us to do so.'

The third of the provincial conventions I attended was the annual convention of the Agricultural Missionaries of the Province of Quebec, held at 'La Trappe,' the monastery of the Trappist Fathers, at Oka, on July 10 and 11. I lectured there on 'Schools of Domestic Science,' as a good means of promoting the agricultural education of farmers' daughters. It was the continuation of a series of lectures on agricultural education which I have delivered before the missionaries for the past four years.

SCHOOLS OF DOMESTIC SCIENCE.

In that lecture I indicated what is being done everywhere, and especially in France, Belgium, Germany, Switzerland, the United States and Canada, for the education of country girls, and I was also able to prove that the first school of domestic science known in our time was opened at Roberval, Lake St. John, in the province of Quebec, by the reverend Ursuline nuns in 1883.

To such schools the farmer sends his daughter to learn the new methods taught, so that she may be able to perform more easily and perfectly the work her mother had much trouble in doing by the old imperfect methods. There the young girl learns to make better butter than that of the common dairy; to bake better bread than is generally made; to get more profit from the poultry yard than it ordinarily yields; often to add to the food products the honey given by the busy bee, which responds so readily to the attention paid it by the farmer's wife; to cultivate a garden so as to have an abundance of wholesome and palatable vegetables and fruits, allowing a change in the daily diet on the farm; to prepare more economically and in more agreeable form the solid but unvaried foods of which the daily diet is composed; to make more carefully, with wool and flax, the stuffs and linens used on the farm; to cut out the clothes, to give them a better shape and to sew them more skilfully than is usually done; to become familiar with the care of the sick and the preparation of the delicate dishes they need, as well as with the laws of hygiene to be followed in regard to children; and to have a regular system of keeping accounts, which is indispensable for order and economy in the farmer's household. The girl who has a knowledge of all this is a fit companion for the farmer, and the only one who will enable him to derive all the profit possible from his industry.

The first annual meeting of the Farmers' Experimental Union of the province of Quebec, which was held at Ottawa on October 30 and 31, was the fourth convention I attended. I had been asked to prepare for that convention a lecture on

EXPERIMENTS WITH FORAGE PLANTS.

In that lecture I gave a synopsis of my own experience in growing forage plants for the last twenty years. The following is a list of the plants I have experimented with: Red-top or dew grass, orchard grass, meadow fescue, rough meadow grass, June grass, timothy, alsike, common, mammoth and White Dutch clovers and meadow foxtail.

In the following table is given the exact composition of the mixture of forage seeds I have found to be the best suited to the climate and soil of eastern Quebec. The figures given here as to the quantities required vary according to the nature of the soil.

Name of Plant.	Light Soil.	Ordinary Loam.	Heavy Soil.
	Lbs.	Lbs.	Lbs.
Clover, Alsike	2	2	2
" Mammoth	4	4	3
" White Dutch	1	1	1
June grass	5	2	2
Meadow Fescue	3	4	4
" Foxtail	1	1	1
Orchard grass	6	8	8
Red top	3	5	5
Rough meadow grass	4	1	2
Timothy	5	6	6
Total per acre	34	34	34

In this mixture June grass, orchard grass and red-top insure an average crop in dry seasons, and meadow fescue, meadow foxtail, orchard grass, rough meadow grass and timothy insure it in wet seasons. That is the mixture for meadows.

For pastures the following has always given good results:—

Clover alsike	2 lbs.
Clover, common red	2 "
Clover, White Dutch	1 "
June grass	7 "
Meadow fescue	4 "
Meadow foxtail	3 "
Orchard grass	5 "
Red-top	3 "
Timothy	5 "
Total	32 "

In this mixture the clovers give a large crop of grass during the first two years, then June grass and meadow foxtail, with timothy, occupy the land. But the two plants that give an especially great value to the pasture, as to its lasting character, are red-top and orchard grass, which withstand wonderfully all excess of moisture, frost or drought.

The winter convention of the Pomological Society of the province of Quebec was held at Knowlton, Brome county, December 18 and 20, and, having been invited to attend it, I delivered there a lecture of which the following is a synopsis:

TWENTY YEARS' EXPERIMENTS IN FRUIT GROWING.

Twenty years ago we undertook some experiments in fruit culture at St. Denis, Kamouraska county, situated on the St. Lawrence river, about 90 miles below the city

of Quebec, in 47° 30′ north latitude. We give here some particulars regarding the climate of that region and the soil of our orchard.

In 43 years the lowest temperature experienced was 34° F. below zero, and the highest 96° F. The average precipitation was 28½ inches, including the snowfall, which averages 3 feet in the open country. The predominant winds are north-eastern and are saturated with salt emanations from the Gulf of St. Lawrence.

The soil of the orchard, which slopes gently to the north, is composed of sandy clay, naturally damp, but well drained. A windbreak of white spruce shelters the orchard on the north-eastern side.

At the time we began our experiments we were growing a few seedling apple trees, the Blue Damson and Montmorency plums and the common or French cherries, but practically no grafted fruit trees of any kind. Since then we have tried 51 varieties of apples, 9 of pears, 33 of plums, 13 of cherries, 12 of gooseberries, 10 of currants, 8 of raspberries and black caps, and 7 of strawberries.

As to apples, we have found that the 22 varieties classified in the following list are well suited for our district, and have a real value:

Summer Apples.—Hare Pipka, Red Astrachan, Summer or Early Strawberry, and Yellow Transparent.

Early Fall Apples.—Grandmother, Montreal Peach, Transcendant and Whitney.

Late Fall Apples.—Alexander, Duchess of Oldenburg, Hyslop, Montreal Beauty, Wolfe's River, St. Lawrence and Titovka.

Early Winter Apples.—Fameuse, McIntosh Red, Wealthy and Winter St. Lawrence.

Late Winter Apples.—Ben Davis, English Golden Russet, Longfield.

Out of these 22 varieties of apples which give good crops of well matured fruit, and which are very hardy in our district, we have selected the following as being the best varieties and the most commendable:

Summer.—Hare Pipka, Summer or Early Strawberry.

Early Fall.—Grandmother, Whitney.

Late Fall.—Duchess of Oldenburg, Titovka.

Early Winter.—Fameuse, Wealthy.

Late Winter.—English Golden Russet, Longfield.

In pear culture, after having discarded Russian varieties, which yielded only fruit of poor quality, we have been very successful in the last three years with the Flemish Beauty and the Vermont Beauty. We expect much from four varieties bought in Belgium, coming from the Ardennes Mountains, as these varieties wintered well for the past three years, including the very severe winter of 1904, and bloomed last spring.

Our experiments with plums have proved very interesting. Out of 33 varieties tested since twenty years ago, we still have under cultivation 31 varieties, of which the following 19 are bearing and give good crops of fine fruit:

Blue Damson, Canada Orleans, Coe's Golden Drop, Early Yellow, Grand Duke, Guii, John Trotter, Lombard, Mirabelle, Pond's Seedling, Purple Gage, Reine Claude de Bavay, Reine Claude de Montmorency, St. Cloud, St. Denis Seedling, Saunders, Smith Orleans, Unknown Seedling, Yellow Damson.

From these we pick the following as the best ten varieties for our district:

Blue Damson, Coe's Golden Drop, Early Yellow, Guii, Lombard, Purple Gage, Reine Claude de Montmorency, Saunders, Smith Orleans, St. Denis Seedling.

The ten varieties just indicated give plums fit to eat, from August 25 to November 10. We sold them this year at 30 cents a gallon on the trees.

We have made experiments with 13 varieties of cherries. The following 7 have proved to be very valuable:

French Cherry, maturing from July 5 to 25.

Ostheim, Russian, maturing from July 10 to 31.

Empress Eugenie, maturing from July 15 to 31.

Montmorency, maturing from July 20 to August 5.

Bessarabian, Russian, maturing from the last days of July to the first days of August.

Lutovke, Russian, maturing from August 1 to 15.

Fonché Morello, maturing from August 10 to 31.

With these 7 varieties we can have cherries for the market from the second week of July to the last week of August.

Now, coming to the small fruits, we make our selection as follows:

Gooseberries.—Out of 12 varieties we consider as the best: Columbus, Downing, Houghton, Pearl, Smith Improved.

Currants.—Out of 10 varieties we have selected Champion, black; Fay's Prolific, red; Versaillaise, red; White Dutch.

Raspberries.—Out of 8 varieties we have kept as the best: Antwerp, red; Golden Queen, yellow; Marlboro, red; White raspberry, yellow.

We have not had much success with Black Caps and Black raspberries.

Strawberries.—Out of the 7 varieties tested we intend to grow the Lovett, Red Alpine, Red Bush Alpine, Sharpless, White Alpine and White Bush Alpine.

We have discarded only the William Belt, because it is infected with leaf rust.

We plant our apple trees 25 feet apart, in rows 30 feet apart. This is contrary to the instructions generally given by orchardists. The reason why we resort to that system is that in our severe climate the trees must be planted close together in order to protect one another from the heavy damp winds prevailing in our region. We have found that, though in Essex county, Ontario, apple trees planted 40 feet apart, twenty years ago, intermingle their branches, in our district the apple trees planted twenty years ago, only 25 feet apart, do not yet intermingle their branches. This shows that owing to the difference in climate there is a great difference in the growth, and that the reasons which are invoked as necessitating a distance of 40 feet between apple trees, (viz., that when planted closer they soon intermingle their branches, prevent the fruit from getting enough air and light, and are an obstacle to the cultivation and spraying of the orchard) do not exist in eastern Quebec.

At the same convention a special committee, composed of Messrs. W. T. Macoun, Horticulturist of the Central Experimental Farm, Robert Brodie, a director of the Quebec Pomological Society, and Mr. J. C. Chapais, Assistant Dairy Commissioner and a member of the Pomological Society, was appointd to make a list of the varieties of apples recommended for the province of Quebec. The list they have drawn up, which has been approved by the society, reads as follows:

For the district bounded on the east by the towns of Three Rivers and Sorel, and from these points west and south throughout the province, the following varieties are recommended:

Summer.—Yellow Transparent, Lowland Raspberry, Duchess.

Fall.—Langford Beauty, St. Lawrence, Wealthy, Alexander.

Early Winter.—Fameuse, McIntosh Red, Wolfe River.

Late Winter.—Canada Red, Scott's Winter, Golden Russet, Baxter and Milwaukee.

For the districts bounded by the counties of L'Islet and Charlevoix, and from Three Rivers and Sorel east and south, the following varieties are recommended:

Summer.—Yellow Transparent, Lowland Raspberry, Duchess.

Fall.—Montreal Peach, St. Lawrence, Wealthy, Alexander.

Early Winter.—Fameuse, McIntosh Red, Wolfe River.

Late Winter.—Scott's Winter, Canada Baldwin, Baxter and Milwaukee.

For the counties of L'Islet, Kamouraska, Charlevoix and the extreme north and east from these counties:

Summer.—Yellow Transparent, Duchess, Charlanoff.

Fall and Winter.—Wealthy, Patten's Greening, Hibernal and Longfield.

Crab Apples.—Whitney, Martha, Transcendent, Hyslop.

The sixth provincial convention I attended was the annual convention of the Dairymen's Association of the province of Quebec, held at St. Hyacinthe, on January 22 and 23, 1907. That convention, the twenty-fifth held by the society, coincided with the twenty-fifth anniversary of the organization of the association, which was formed in 1882.

I delivered at the convention a lecture illustrated with 55 lantern slides, giving an historical sketch of the society and its work. The character of the lecture makes it impossible to summarize it.

I classify as being of a provincial character the thirteen courses at the St. Hyacinthe Dairy School at which I delivered lectures.

COUNTY AND DISTRICT MEETINGS.

I have delivered during the last fifteen months seventy-eight lectures at county and district meetings. Most of these lectures were delivered at thirty-four county conventions, forming part of many series of Farmers' Institute meetings that were held during the last two winters (1906 and 1907). I conducted three of those series.

The first one was held from January 29 to February 7, 1906, in the following localities: Champlain and Ste. Anne de la Pérade, in Champlain Co.; St. Casimir, Cap Santé and St. Raymond, Portneuf Co.; L'Ancienne Lorette, St. Ambroise de Lorette, Charlesbourg and Beauport, Quebec Co.; Ste. Hénédine, Dorchester Co., and St. Henri, Lévis Co. I was accompanied on that trip by Mr. J. B. Trudel, a factory syndicate inspector, of St. Prosper, Champlain Co., and Mr. T. J. A. Marsan, Professor of Agriculture at the Agricultural School of the Reverend Trappist Fathers at Oka. In that series of lectures I dealt with the following subjects: 'Good Seeds,' 'Cow Testing Associations,' 'The Bacon Hog,' 'Rural Economy,' and 'Fruit Growing.'

My second series of Farmers' Institute meetings was held in the counties of Bonaventure, Gaspé and Matane, from August 21 to September 6, 1906, both dates included, and I was accompanied by Mr. Luc Dupuis, apiculturist, of Village des Aulnaies, L'Islet Co., who lectured on Apiculture. Meetings were held at the following places: Nouvelle or St. Jean l'Evangéliste, Maria, Cascapédiac or New Richmond, Bonaventure, Paspébiac and Port Daniel, in Bonaventure county; Grande Rivière, Percé, Cap Chat and Ste. Anne des Monts, in Gaspé county; Sandy Bay, Matane and Ste. Félicité in Matane county.

We began our lectures on August 21, at Nouvelle or St. Jean l'Evangéliste, where we had an audience of 75 farmers; then on the 22nd, at our meeting at Maria, we had an attendance of 150; at Cascapédiac or New Richmond, on the 23rd, we had 140 hearers; at Bonaventure, the 24th, 200 hearers; at Paspébiac, the 26th, 175 hearers. At Port Daniel, where we went on the 27th, a political meeting held the same evening, which we thought would help to bring the farmers together for our meeting, completely diverted their attention, and only the Mayor and the Secretary of the Farmers' Club were present. Continuing our series, we delivered a lecture at Grande Rivière on the 28th, before 50 farmers, and another at Percé, on the 29th, before an audience of 50.

Leaving then the region of South Gaspesia and Baie des Chaleurs, the scene of our first efforts, we came back to continue our journey along the south shore of the St. Lawrence, in Matane and Gaspé counties. We delivered lectures on August 31 at Sandy Bay, before an audience of 200; on September 1, at Matane, to 75 farmers; on September 3, at Ste. Félicité, before an audience of 50; on the 5th, at Cap Chat, to 250 farmers, and on the 6th, at Ste. Anne des Monts, before an audience of 15. The

last meeting had not been advertised by those who should have attended to the matter.

All our lectures were delivered in French, except at Cascapédiac or New Richmond, where I was asked to repeat in English the lecture I had first delivered in French.

In that section of the province of Quebec the population is divided into three classes, farmers, woodmen and fishermen, none of them deriving from their respective industries all the profits available. In my lectures I endeavoured to show the great advantage to the farmers settled all along the shores of the St. Lawrence and Baie des Chaleurs in giving the first place to agriculture, so that it may be a source of mutual benefit between the farmers and those who follow the two other industries referred to. For example, the lumbering industry offers an outlet for the sale of hay, oats, potatoes, pork, &c.; the other, the fishing industry, is a source of valuable manuring material for the improvement of the soil. The offal of fish, and sea weed, varec, &c., constitute very valuable fertilizers for the soil on which they are applied. Moreover, if the people understood how to connect with these two sources of prosperity the dairying industry, which is beginning to develop in that region, they would soon make of it one of the richest sections of the province. Already dairying has gained a foothold and is very promising. We found butter or cheese factories at Maria, New Richmond, Percé, Sandy Bay, Matane, Ste. Félicité and Cap Chat. In these last localities there are two creameries in operation. We advised the farmers especially to make the most of all the numerous sources of profit which agriculture affords. The climate of that region is particularly well adapted for the production of good butter and cheese, for it favours the growth of forage plants even during the most severe droughts, such as that which prevailed last summer. Notwithstanding the drought, the crops of hay and oats in the northern part of Gaspesia were the best of any that we saw last year. The climate is also especially favourable for the preservation of milk in good condition during the warmest period of summer, owing to the cool nights, which are one of the characteristic features of those localities.

Mr. Dupuis, on his part, showed the farmers how perfectly suitable apiculture is for their climate. He met often with the prejudice, founded only on mere supposition, that bees could not winter in Gaspesia, but he very easily disposed of that. His lecture, which was practical and very clear, convinced the most incredulous, and after each of the meetings many of his hearers came to ask for further information on some particular points, and enquired where bees could be obtained.

My third series of institute meetings lasted from February 26 to March 8, 1907. I was accompanied by Messrs. V. T. Daubigny, veterinary surgeon, Terrebonne; V. Fortier, of the Poultry Division at the Central Experimental Farm, Ottawa, and Mr. J. B. Trudel, factory syndicate inspector, of St. Prosper, Champlain county.

Mr. Daubigny delivered lectures on 'The Hygiene of Cattle' and 'The Horse'; Mr. Fortier, on 'Poultry Raising on the Farm,' 'The Cold Poultry House,' and 'Statistics on Poultry and Eggs'; Mr. Trudel, on 'The Care of Milk,' and 'What Good Butter and Cheese Factories Should Be,' and I spoke on 'The Formation and Improvement of the Dairy Herd,' 'Feeding and Care of the Dairy Cow,' 'Good Seeds' and 'The Bacon Hog.'

This last series of institute meetings was the best I have ever taken part in, inasmuch as the attendance was very representative. At almost all the places visited, farmers gathered in good numbers from all the neighbouring parishes.

In the following condensed table are given a few notes on the localities visited, the meetings held, the number of farmers at each meeting, and the success of the series.

Counties.	Localities.	Date.	1st Meeting Attendance.	2nd Meeting Attendance.	Remarks.
Chambly	St. Basil	Feb. 26..	50	75	A not very numerous but good representative attendance of farmers from all the neighbouring localities, accompanied by the parish priests.
St. Hyacinthe	Ste. Madeleine..	" 27..	125	175	Assembly composed mostly of the local farmers.
Yamaska	St. Guillaume...	" 28..	200	250	A very good representative meeting.
Bagot	Ste. Hélène.....	March 1..	93	125	" " "
Drummond	St. Germain....	" 2..	180	..	Much interest taken in poultry matters by a good representative audience.
Bagot	Acton Vale.....	" 4..	104	180	Very attentive audience of farmers from many localities.
Shefford	Roxton Falls....	" 5..	75	70	Assembly composed of the local farmers, who showed much interest in poultry matters.
Arthabaska	Arthabaskaville.	" 6..	200	180	A large gathering of farmers from many localities. The reverend brothers from the college attended with their pupils. Much interest was taken in dairy matters.
"	Stanfold.....	" 7..	95	75	People here take great interest in poultry raising. Audience seemed highly interested in all the lectures.
Megantic	Plessisville.....	" 8..	300	400	The last and largest meeting of the series. Farmers from distant localities present. Audience highly interested in dairy and poultry matters.
8 counties	10 localities...	10 days.	1,422	1,530	
Total attendance			2,952		

Besides the county meetings mentioned above I attended four others. Two of these were held at St. Charles, Bellechasse county, and St. Lin, L'Assomption county, where Mr. J. D. Leclair, general inspector of butter factories of the province of Quebec, met the buttermakers of these two counties at a joint meeting. Another meeting was held at L'Isle Verte, Temiscouata county, for the purpose of organizing a new factory syndicate; and another at St. Hyacinthe, on April 26, 1906, being a convention of all the Farmers' Clubs of the Diocese of St. Hyacinthe, under the auspices of His Lordship the Bishop of St. Hyacinthe.

LECTURES BEFORE FARMERS' CLUBS.

Many of the lectures I have mentioned above as having been delivered by me during the last fifteen months were delivered before farmers' clubs taking part in the conventions just referred to. Besides these I lectured before seven others, delivering lectures which have already been mentioned in this or in previous reports. The number of those clubs continues to grow in the province of Quebec, and they are a source of great progress in agriculture.

LECTURES AT PARISH MEETINGS.

In reference to the lectures at parish meetings, of which I have delivered eleven during the period covered by the present report, I append hereto a report of a visit made last year to New Ontario:

VISIT TO NEW ONTARIO.

I beg leave to place before you my report of a trip undertaken on September 19, 1906, for the purpose of delivering a series of lectures in parts of Algoma and Nipissing districts, New Ontario.

I lectured at Chelmsford and at Rayside, in Algoma, and at Blezard Valley, Hanmer, Capreol, Warren, Verner, Sturgeon Falls and Monetteville, in Nipissing. The series was begun at Chelmsford, on September 21, where I had an audience of 120 farmers. At Rayside, on the 22nd, there was an audience of 90; at Blezard Valley, on the 23rd, an audience of 200; at Hanmer, on the 24th, an audience of 75; at Capreol, on the 25th, an audience of 75; at Warren, on the 27th, an audience of 35; at Verner, on the 28th, an audience of over 300; at Sturgeon Falls, on the 29th, an audience of 50, and at Monetteville, on October 1, an audience of 100.

As all these localities are settled mostly by French-Canadian farmers, I delivered all the lectures in French, except at Warren, where I was requested to repeat my lecture in English.

To show what is being done concerning agriculture in those rather newly settled agricultural districts, I cannot do better than give a summary of the lecture I delivered in each of them.

'We find that the population of New Ontario, in the section I have visited, is composed partly of farmers and partly of workingmen engaged in mining and lumbering. These workingmen having to be fed, the farming population has a ready open local market and the best of opportunities to sell the products of their land. Hitherto the farmers have done almost nothing but grow hay, oats and potatoes. These they sell readily and at a good price, hay being worth from $12 to $15 a ton, oats $1.50 per 100 lbs., and potatoes $1.50 per bag.

'But if the farmers continued to sell the raw products of their lands in this way, they would soon ruin the fertility of the soil, as has been done by the farmers of the old settlements of the country. Every ton of hay sold takes away from the farm 31 pounds of nitrogen, 8·20 pounds of phosphoric acid, and 26·40 pounds of potash. As nitrogen is worth about 14 cents, phosphoric acid 6 cents and potash 5 cents per pound, a farmer selling one ton of hay sells $6.35 worth of the fertility of his land. If, on the contrary, he feeds his hay to cows, he keeps 80 per cent of the fertilizing elements contained in that hay, on the farm, by the application of the manure from the cows, and has cheese or butter to make money with, and whey or skim-milk to feed pigs or calves, which are another source of profit.'

(This demonstration was well understood by the farmers, and one of them at Rayside told me that ten years ago he used to gather two and a half tons of hay from an acre of his land, but that, having since then kept growing hay and selling it from the same land, he gets now no more than one ton per acre.)

'It is, then, a good thing for the New Ontario farmers to study dairy husbandry in all its details and begin immediately to raise stock, in order to take part in the movement in which the farmers of other sections of the country have joined. For that purpose they have to inaugurate on their land a good system of rotation, to grow plenty of clover, to keep large herds of good hardy breeds of dairy cows, and to raise pigs in connection with dairying. They have a ready market for butter, cheese and pork. They must strive to meet the requirements of such a good market, which will enable them to make plenty of money out of their land, and in the meantime they must keep the land continuously in a good state of fertility.'

The lands I saw during my trip are very suitable for the growing of grasses and clovers. The aftermath of clover on the fields at the end of September was really remarkable.

There is one thing very much needed in this section of Ontario, and that is good grist mills. After many of my lectures I was told by farmers that they are raising no more pigs than necessary for the use of their families, because ground feed is too

expensive for them, and as they have to feed their pigs with whole grain, there is no profit in it, and they make more money by selling the grain.

I saw a cheese factory at Hanmer and a creamery at Verner. Those factories were established only a short time ago, and circumstances seem to have been adverse to them at first. Of course, much more benefit will be derived from such factories when, through co-operation, a large number of them will have been established. I hope that if we follow the course of giving a few lectures now and then on dairy husbandry in that section of the country, dairying will develop quickly, as everything there regarding the land, the climate and the stock seems perfectly adapted for such development.

SUNDAY WORK IN FACTORIES.

A new feature was added to my work last year, that of fighting against Sunday work in butter and cheese factories. By special request I delivered a short series of six lectures, in four localities, on that question.

ST. HYACINTHE DAIRY SCHOOL.

Most of my time last winter, last fall and this winter was devoted, as usual, to the St. Hyacinthe Dairy School, where I delivered lectures on dairy husbandry to the students attending its courses. I attended six of these courses from January to April, 1906, and seven from November, 1906, to March, 1907, both months included. The courses lasting from November, 1905, to April, 1906, were attended by 180 students, 118 for buttermaking, 52 for cheesemaking and 10 for a special course. From November, 1906, to March, 1907, the courses were attended by 151 students, 85 for buttermaking and 66 for cheesemaking. I have delivered to those students 142 lectures in French and 22 in English.

FACTORY SYNDICATES AND SYNDICATE INSPECTION.

This year I organized one new syndicate in Temiscouata county. I also inspected two syndicates, one in L'Assomption, Montcalm and Terrebonne counties, and one in Montmorency, Bellechasse, Dorchester and Lévis counties, in company with the local inspectors, who had asked to have the inspection made. In making it I travelled 918 miles, inspected 46 factories, and delivered 102 lectures, in 23 days, in 25 localities. I also inspected 15 other factories which were not included in any syndicate.

DEATH OF MR. EMILE CASTEL.

I am sorry to have to close this report with a reference to a sad loss, that sustained in the death of Mr. Emile Castel, the worthy and esteemed secretary of the Dairymen's Association of the province of Quebec, and secretary of the St. Hyacinthe Dairy School. He passed away on March 30th instant, at the age of 53, and his death will certainly be a great loss to the dairy industry of the province of Quebec, for he was one of the most prominent and able dairymen of the province. He was secretary of the Dairymen's Association for the last fourteen years.

I have the honour to be, sir,
Your obedient servant,

J. C. CHAPAIS,
Assistant Dairy Commissioner.

PART III.—EXTENSION OF MARKETS.

OTTAWA, March 31, 1907.

J. A. RUDDICK, Esq.,
Dairy and Cold Storage Commissioner,
Ottawa.

SIR,—I have the honour to submit a report of the Extension of Markets Division for the year ended March 31, 1907.

Throughout the past year this division has continued its work for the improvement of the transportation facilities for our export food products, with, I am pleased to be able to say, gratifying results. During the summer months a closer inspection was maintained over the refrigerator car services for butter, cheese and fruit, and, as a consequence, these services were operated in a more satisfactory manner than ever before. Careful attention was also paid to the handling our food products received at the loading ports, and rough work was, as far as possible, suppressed. The loading of these products in the steamers, the ventilation of the holds in which they were stowed, the temperatures maintained in the cooled air and refrigerator chambers, the unloading at ports of discharge in Great Britain, &c., were carefully noted by a staff of trained men, and any defects in the service or complaints *re* handling or stowage were promptly brought to the attention of the steamship companies concerned. Every cargo of perishable products, whether large or small, carried from the ports of Montreal and Quebec (and in the fall and winter months from St. John and Halifax), had an inspector in attendance while loading was going on, and also at the ports in Great Britain while these cargoes were being unloaded.

In addition to the work outlined above, the Markets Division has had considerable correspondence with firms in Great Britain and other European countries, seeking to establish business relations with shippers of Canadian farm and food products. In each case the desired information was duly furnished, and at the same time, the inquiries were brought to the notice of the interested parties in this country.

By direction of the Honourable the Minister of Agriculture, the Chief of this Division was engaged, from June 13 to August 16, in an investigation of the meat packing establishments in Canada, in order to ascertain the conditions under which this industry is carried on. On completion of the investigation a full report was submitted to the minister.

CARGO INSPECTION AT MONTREAL AND QUEBEC.

During the greater part of the season of navigation seven cargo inspectors were employed at Montreal and Quebec, and furnished reports on each cargo of food stuffs shipped from these ports. Their reports gave the following details: name of steamer and line; destination; sailing date; special ventilation, if any; number and condition of refrigerator chambers; number of cooled air chambers; quantities and kinds of produce carried in these chambers; comments on the handling of the cargo; number of thermographs placed in ship and when, where, and with what cargo placed; number of boxes of cheese carried, and the following particulars of as many lots as the inspectors could take note of: factory brand, shipper's brand, shipper, number of boxes, per cent of breakage in each lot, method of loading, where stowed in ship, condition of cheese and how dunnaged; number of packages of butter carried, with marks, shipper's name and number of boxes or tubs in each lot, condition of packages, where stowed in ship, kind of goods, if any, stowed in the same chamber, and condition of

chamber; number of cases of eggs, bacon and other produce carried, with full details, as above; number of barrels and boxes of apples, with date of inspection, shipper's name, brand, packer's name and address, number of barrels or boxes in each lot, variety, grade, number examined, number wrong under Fruit Marks Act and section violated, temperature of shed and fruit, where stowed in ship and condition of apples, packages, &c. This apple form was filled out conjointly by the Fruit Marks Act inspector and the cargo inspector. The cargo inspectors also took the temperature of a number of packages of butter in each shipment, at the same time marking these packages so that they could be easily distinguished when unloaded at the port of discharge.

Although these cargo inspectors have no legislation behind them and are not, therefore, in a position to order this or that to be done, their work, nevertheless, is carried on with the sanction and approval of the steamship companies, who recognize that, in the long run, it is for the good of their business as well as for the good of the country at large. Occasionally some slight friction occurs, but in the main the relations existing between the inspectors and the dock superintendents and other steamship officials with whom the inspectors are in daily contact, are entirely harmonious.

If one of the stevedore's men, working either on the dock or in the holds of the ship, persists in handling perishable goods roughly after having been warned by the inspector, all the latter has to do is to report the offender to the dock superintendent, who will usually discharge him unless there is an immediate and lasting reform. In this respect alone the oversight exercised by the inspectors has been productive of incalculable benefit to both the shippers and carriers of perishable goods. The very fact that the men who work on the docks know that there is an inspector around tends to make them careful, because they realize that one or two complaints registered against them will mean their discharge. To illustrate this phase of the work I quote herewith a few comments from the Montreal inspectors' reports for the season of 1906:

Liverpool Service.

SS. ————, *sailed May 12.*

'A number of cheese boxes were broken by using shutes for loading. I went to the foreman and had him place stuffed sacks at the bottom of shutes for the boxes to strike against.'

SS. ————, *sailed June 9.*

'The cheese stowed in No. 6 hatch were very roughly handled, quite a number of boxes being broken. I spoke to the men a number of times, but they did not pay any attention to me until I went to the superintendent, who sent a man down to watch them. They handled them better after that.'

SS. ————, *sailed June 23.*

'Some cheese were handled very roughly with the platform slings. I spoke to the men two or three times, but they paid no attention to me. I then went to the superintendent, who came and told the men they were to do as I said or he would discharge them all, which had the desired effect.'

SS. ————, *sailed July 14.*

'The cargo on this steamer was handled as carefully as possible. They kept a man at the hatch watching the men stowing the cheese in the ship. I had to speak to the carters several times for breaking boxes, and had to threaten to telephone the firms they were drawing for, which made them more careful.'

SS. ————, *sailed September 15.*

'I had to speak to the men a couple of times for handling the cheese roughly, and

the foreman threatened to discharge them if he saw them again. I threatened to report a couple of the carters and one helper for throwing the cheese, after which they were handled very carefully.'

London Service.

SS. ————, sailed September 1.

'The cargo on this ship was handled very well. I had to speak to the shore captain about the patent drop, as the men had not fixed it properly, and were dropping the cheese about six inches, thus breaking several of them. He immediately had it remedied.'

SS. ————, sailed September 29.

'The cargo on this ship was handled a little rougher than usual, as the boat was late, and they were rushing to get her out on time. I spoke several times to the men who were handling the apples and cheese, then I went to the shore captain, who told the foreman to handle the goods carefully and not break them if the boat stayed here a week. After that they were handled very much better.'

SS. ————, sailed October 27.

'Cargo handled carefully, with the exception of apples from railways by teamsters, who had to be cautioned several times for careless work.'

Glasgow Service.

SS. ————, sailed June 14.

'Some of the cheese were handled very roughly. I spoke to the men, but they did not pay much attention. I got the foreman and he cautioned them, but still they kept on, and finally he discharged two of them. After that it was handled splendidly. Cheese stowed in No. 2 hatch were roughly handled. I spoke to the foreman, who went down into the hold and changed the men, and the cheese were then handled much better.'

SS. ————, sailed June 20.

'The cargo on this steamer was loaded in good condition and handled very carefully. The men are all watching for us now, as they have been told that if we report any of them they will be discharged. The greatest trouble now is with the carters dropping the boxes on the side of the wagon. A large number of boxes are broken in this way.'

SS. ————, sailed August 9.

'The cargo on this ship was handled a little roughly at times. I spoke to the foreman who was handling the butter and cheese. He was a new man and did not pay much attention, but went on handling them roughly. I spoke to the captain, who immediately went to him and gave him a severe talking to; after that they were handled very well.'

IMPROVED LOADING FACILITIES AT MONTREAL.

Of late years there has been a decided improvement in the handling of cheese by the steamship companies at Montreal. The rope nets, which were universally used a few years ago to transfer cheese and other products from the dock to the holds of the ship, have now almost entirely disappeared. This division has paid particular attention to this question and has taken every opportunity to urge the steamship companies to provide better facilities for the loading of such products as cheese, butter, eggs,

&c., so that breakage at this stage of their transportation would be reduced to a minimum. Last season the platform truck was in pretty general use for loading purposes, but a few of the steamship companies adopted a cross between the 'rope net' and the 'platform truck,' which is termed the 'platform sling.' Believing that this contrivance is not as satisfactory as the platform truck, a letter was sent on June 9, 1906, to those companies making use of it, of which the following is a copy:—

'OTTAWA, June 9, 1906.

'Re *Loading of Cheese.*

'DEAR SIRS,—The use of rope nets for the loading of cheese into the steamers at Montreal was, last season, pretty generally discarded, with great benefit to the trade, because it is practically impossible to load cheese with nets without more or less breakage of the boxes. At present your company are using what we term the platform sling, which is a decided improvement on the net, but which we believe is not so good a device as the platform truck, which is loaded on the dock with cheese, hauled up the gangway and lowered into the hold without any change in the position of the boxes. The platform sling, after it leaves the gangway, is suspended by one end, and as the boxes are more or less bunched while being lowered into the hold, they are thus subjected to considerable strain, which is often sufficient to break the weaker boxes. Then when the sling is landed in the hold, the boxes at the end of the sling strike bottom first, and unless the lowering is carefully done, further breakage is liable to occur. With the platform truck there is no danger of damage from either of these causes.

'It is possible that your dock superintendent, who is a practical man and thoroughly understands his business, may know of some disadvantage possessed by the platform truck that has not been brought to my attention, but so far as our cargo inspectors have observed, coupled with what I have seen myself during my frequent visits to Montreal, the platform truck is the more satisfactory contrivance of the two for the safe loading of cheese.

'Loading by means of chutes is another method that is used at times by most of the Montreal steamship companies. If buffers are properly placed and the brake carefully attended to, there should be scarcely any breakage of boxes, but if the men are allowed to get careless, as many boxes are apt to be broken by this method as by any other.

'I bring this matter to your attention because I believe that you are anxious to have your steamers provided with the very best facilities for the safe loading of perishable products, and that any suggested improvement will receive your careful consideration

'Your very truly,
'(Signed) W. W. MOORE,
'Chief, Markets Division.'

Replies received from the companies concerned stated that they were desirous of having the best and most up-to-date appliances for the careful handling of perishable produce, and that the matter would be carefully investigated. One company pointed out that in the old freight sheds, owing to the difference in the levels of the floors, it was not convenient to use the platform truck, but as soon as they could get into the new sheds then building, they would adopt the best device obtainable.

During the warm weather last season, our inspectors found that there was a tendency on the part of the two steamship lines to allow butter to remain for several hours in the steamship freight sheds before being loaded in the ship's refrigerator chambers. This was reported to our Chief Inspector, who at once waited upon the superintendents of the lines in question, and requested them to see that during warm

weather the butter was loaded as soon as possible after being delivered in the shed. Instructions were given to this effect and the butter was loaded promptly thereafter.

The greatest difficulty our inspectors have now to contend with is rough handling by the teamsters who draw the butter, cheese, apples, &c., from the railway cars or warehouses to the docks. These men are only anxious to get rid of their loads as quickly as possible, and unless they are continually watched they will unload boxes of butter or cheese, or barrels of apples with as much unconcern and lack of care as if they were handling pig iron. Our inspectors check them as much as possible, but they cannot always be on hand when the teamsters are unloading, as their duties frequently call them to other parts of the shed or into the holds or chambers in the ship. This season, however, it is our intention to have the inspectors pay particular attention to this phase of their work.

CANADIAN PRODUCE AT PORTS IN GREAT BRITAIN.

Liverpool.—In the last annual report an extended reference was made to the conditions under which Canadian perishable products, particularly butter, are handled at the port of Liverpool. Considerable correspondence, exchanged between this branch and the Mersey Docks and Harbour Board (the controlling power in connection with the Liverpool docks) was quoted, and it was shown that Canadian butter after being landed from the ship's refrigerator chamber, was allowed to remain in the ordinary dock sheds for periods ranging from 24 to 72 hours. During the season of 1906 some improvement was manifest, but our inspectors' reports show that from June 19 to October 24, 10,045 packages of Canadian butter were left on the docks for two days and that 2,660 packages were left on the docks for three days and over. The butter that remained for three days usually showed a very considerable change in temperature: for instance, 660 packages were landed from the SS. *Southwark* on July 30 and were not removed within the three-day limit. When landed the temperature of the butter was 21 degrees, but three days later, when the second test was made, the temperature was 59 degrees. The last three years there has been a good deal of agitation over this question among the members of the trade, both in Canada and in Liverpool, and it has also received considerable attention from the Liverpool press. In this connection we have to thank the Liverpool *Journal of Commerce* for the prominence it has given to this matter and for its fair advocacy of our case. There is no doubt that all this publicity has had a most beneficial effect, and recent developments warrant the hope that the state of affairs complained of in the past will soon be remedied. At the time of writing the position is as follows:—

First, the Allan Steamship Line have made arrangements with the Imperial Cold Storage Company for the issue of bills of lading for delivery at shipper's risk, but at ship's expense, at the Canada Dock Cold Stores, at a through rate including dock dues, cartage, porterage, a week's cold storage and delivery within a two-mile radius, of the following products: cheese, bacon, fruit, chilled beef, butter, frozen poultry, meats and fish.

Second, the Canadian Pacific Railway Company have secured authority to erect a cold store on the Sandon dock, where their ships are berthed, and have intimated that cold storage accommodation for the products mentioned above will be provided about the first of July next. The goods will be stored for one week and delivered to consignee's order within certain limits. Storage and delivery charges, dock dues, porterage, cartage, &c., will be included in the through rate.

In the last three years Liverpool's share of the imports into the United Kingdom of Canadian butter and cheese has been steadily declining. In support of this assertion I submit the following table which, taking the total quantities of butter and cheese shipped from Montreal to London, Bristol, Liverpool, Glasgow and Manchester in the seasons of navigation in 1904-5-6, shows the percentage of each product shipped to each port.

Butter shipments from Montreal to the ports named in Great Britain, during seasons of navigation in 1904-5-6.

Ports.	1904.	1905.	1906.
	p. c.	p. c.	p. c.
London	25	37	44
Bristol	31	27	30
Liverpool	29	27	16
Glasgow	7	7	8
Manchester	8	2	2
	100	100	100

Cheese shipments from Montreal to the ports named in Great Britain, during seasons of navigation in 1904-5-6.

Ports.	1904.	1905.	1906.
	p. c.	p. c.	p. c.
London	43	45	49
Bristol	19	20	21
Liverpool	29	27	22
Glasgow	5	4	5
Manchester	4	4	3
	100	100	100

From the above figures it will be seen that in the three years mentioned Liverpool has been falling behind in receipts of both butter and cheese, that London has been making large gains, while Bristol and Glasgow have been about holding their own.

Glasgow.—I regret to state that very little improvement was shown last season as regards the removal of Canadian butter from the Glasgow docks. The bulk of the butter landed from each steamer was removed with fair despatch, but a quantity was usually allowed to remain on the quay for from five to seven days, regardless of temperature. The reason for this state of affairs is as follows: A Glasgow or Leith firm may purchase butter in Canada to be shipped by a certain steamer, but before the vessel reaches Glasgow all or a portion of that firm's consignment may be sold to customers in Glasgow, Leith, or in neighbouring towns. The butter is sold 'to arrive' and as soon as the importer receives his documents from the Canadian shipper he forwards delivery orders to those who have bought the butter, and then washes his hands of the whole transaction. The butter, of course, lies on the dock in the importer's name, but he is not then the owner, although he naturally gets the blame for the delay. If the whole or any part of a consignment is not sold before the boat reaches port, it is quickly removed to the importer's cold store, as the latter appreciates as well as anyone the value of keeping butter at a low temperature. Many of his customers, however, are either not so much impressed with the importance of cold storage, or else are simply negligent, with the result that anywhere from five to seven days may elapse before they remove their butter from the dock to their own premises. That the reports on this subject made from time to time by this division have caught the attention of importers is shown by the interesting letter that I received from Messrs. W. & M. Gilmour, produce merchants, Glasgow, which reads as follows:—

'GLASGOW, January 7, 1907.

'Mr. W. W. MOORE.
'Chief, Markets Division,
'Department of Agriculture, Ottawa.

'Landing and Delivery of Butter from Canada.

'DEAR SIR,—As we note from your various reports issued in book form that considerable interest is being taken by your Department of Agriculture *re* the conveying and landing of Canadian butter and cheese, also the neglect which is sometimes shown both in Glasgow and at other ports in the removal of same from quay after goods have been landed, we beg to direct your attention to a specific case in which we are concerned, but in which we are not the defaulters. From bill of lading inclosed you will observe that consignment referred to consisted of 80 boxes finest Canadian butter, marked 'Athol,' Nos. 43/45, and which arrived at Glasgow per Allan line SS. *Mongolian*, on November 19, 1906. Documents were sighted by us on November 20, and delivery order granted by Messrs. Allan on same date, proof of which is given on bill of lading by Messrs. Allan's date stamp. This butter we sent our contractor for immediately, but notwithstanding repeated inquiries at the quay during the next two days, it will probably surprise you to learn that delivery was not received by us until November 23, three days after we had taken up documents. From inquiry made on the spot in connection with this matter, we learned that no blame was attached to Messrs. Allan, as goods, we understand, were duly delivered from steamer within regulation time, the fault, we are advised, being entirely with the Customs in their dilatoriness in passing the goods. As you are no doubt aware, it would simply be a matter of impossibility on our part to get at the Customs directly on a matter of this kind; indirectly we hope to obtain our point through your Department of Agriculture; not that any particular good can be done now in connection with this consignment, but future shipments may receive prompter attention from Customs here if your government take up the matter in a spirited manner, and occurrences of this kind obviated in future seasons.

'We may mention that at this particular time referred to, we in Glasgow were experiencing extremely mild weather, in fact, we were passing through a heat wave, which was certainly unusual for our district at that time of the year. The result was that the lot of butter referred to was carted into our warehouse in a very soft condition, and in a manner showed a serious defect in point of quality. Here we have ample proof, if proof were required, that unless butter of this kind is handled very carefully, both at port of shipment and at port of delivery, and an earnest endeavour made to protect it as much as possible from changes of temperature, a serious injustice may be done to Canadian butter, and an evil reputation cast upon it by consumers. On the other hand, we have proved to our own entire satisfaction by experiments carefully carried out, that if the butter is removed from quay and conveyed to cold storage immediately after landing, any little extra cost is fully recompensed by the satisfaction obtained in distributing the butter to our buyers in perfect condition, thereby insuring a regular trade with regular customers, to our own and their satisfaction.

'We make it a strict practice of taking up documents immediately they are sighted in Glasgow for all consignments of butter, and in cases which have occurred during the past seasons, where a steamer has at times arrived in advance of documents, we have gone to the trouble of getting a banker's guarantee, so that goods might be removed at once from quay direct to cold storage. So much satisfaction have we obtained from following out this rule strictly, that we can well understand the good intentions of your department in endeavouring to get all importers to give this matter their earnest attention. We trust your suggestions in this direction will be acted upon, and thus enable Canadian butter to be delivered to the consumer in prime condition;

if so, Canadian butter will, we are convinced, in a very short time occupy a position alongside the two finest butter which the world produces, viz., Danish and New Zealand.

'We quite admit that there is still room for further improvement in the make of Canadian butter, but this is a matter we are willing to leave in the hands of your different dairies, as the suggested improvements and instructions given by your dairy experts, if acted upon, are bound to have a good effect. In our opinion they are one and all in the right direction, and without intention to flatter in any sense, we say honestly that no government has done, and is still doing, more towards perfecting the development of the very highest and admittedly best system in the production and distribution of dairy produce than has the government of Canada.

'We shall be pleased to have your acknowledgment of our letter, and also shall be pleased to fall in with any idea or proposals which you are likely to bring before our notice for the further development of Canadian produce imported.

'Yours truly,

'(Signed) W. & M. GILMOUR,

'Per THOS. MORRISON.'

This communication was laid before the Honourable the Minister of Agriculture, who wrote to Lord Strathcona, High Commissioner for Canada, London, asking him to unofficially bring the complaint made by Messrs. W. & M. Gilmour to the attention of the Imperial Customs authorities. This was done, and his Lordship was furnished with a statement from the collector at Glasgow to the effect that the Customs were blameless in the matter, the fault resting with the consignee.

As this report goes to press the Allan Line Steamship Company announce that they have arranged for the cold storage of perishable goods at Glasgow for the season of 1907. Bills of lading for butter, cheese, bacon, fruit, meats and poultry will be issued to include cartage from the Glasgow docks to Milne's cold store and delivery therefrom. It is to be hoped that these arrangements will prove satisfactory and that full advantage will be taken of the facilities provided.

London.—As I stated in last year's report, Canadian perishable produce is exceedingly well handled at the port of London, the facilities provided at the Surrey Commercial dock being first-class in every respect. In December last our inspector reported that the dock company were completing extensive installations of cheese conveyors in the Canadian Produce Warehouse, which he stated would be shortly in operation. In connection with these conveyors, the Thomson line had four powerful elevators in course of construction, by which means the cheese would be taken from the ship's holds and deposited automatically in the cold stores at an estimated rate of 6,000 boxes per hour, thus greatly minimizing the amount of handling and trucking. Owing to the better methods of handling, the percentage of broken boxes *ex* steamers at this port is infinitesimal compared with the returns of four years ago.

Prior to 1906 the Furness-Withy Steamship Line, running steamers between Halifax and London, landed their apple cargoes at the Victoria dock, but last fall the company changed their terminus to the Surrey Commercial dock. This improvement was referred to by our London inspector in his report on the first cargo of Nova Scotian apples (which arrived on September 24), as follows:—

'This being the first shipment of apples from Nova Scotia this fall, a word respecting the London changes may be of interest.

'As you are aware, the bulk of Canadian produce is landed at the Surrey Commercial dock under conditions that have given the greatest satisfaction, and the value of the accommodation afforded has been generally recognized.

'Recently the Furness-Withy line transferred their steamship traffic from the Victoria to the Surrey Commercial dock, and have taken up a berth situated on the north side of Greenland dock, a plan of which I attach.

'As regards the handling the fruit, the new premises are sure to meet with the

approval of all parties concerned in placing fruit in the hands of the consignees in the best possible condition. Both from the geographical position of the new dock and the special advantages afforded by the equipment provided there for perishable products, the advantage of being delivered direct from the ship to warehouses within the cartage area of the chief markets is so important and substantial that shippers may confidently look to London as a market where the shipping conditions at this particular dock are of the highest possible standard.'

Bristol.—From reports received throughout the season from the cargo inspector at Bristol, there is no doubt that produce landed at Avonmouth (the port of Bristol), received careful handling and prompt despatch, the butter being forwarded in refrigerator cars as soon as landed. On the new dock, which has been in course of construction for some time past and is now well advanced, ample provision will be made for the safe and rapid handling of Canadian food stuffs.

EXPORTS OF CANADIAN FARM AND FOOD PRODUCTS.

The following comparative statement shows the value of the principal farm and food products exported from Canada, (*a*) to all countries, (*b*) to the United Kingdom, during the year ended March 31, 1907; also the value of imports of similar products into the United Kingdom during the same period.

Products.	Value of some Canadian Farm Products exported in the Year ended March 31, 1907.		Products.	Value of products of the same sort imported into the United Kingdom from all countries in the Year ended March 31, 1907.
	To all Countries.	To Great Britain.		
	$	$		$
Butter	4,011,609	3,805,925	Butter	113,027,296
Cheese	22,006,584	21,909,878	Cheese	37,122,378
Eggs	556,557	521,656	Eggs	34,495,916
Poultry, dressed or undressed	74,057	54,159	Poultry	4,051,641
Bacon	9,018,470	9,012,496	Bacon	71,571,720
Hams	203,652	183,809	Hams	16,785,055
Pork	47,293	12,012	Pork	7,183,652
Wheat	20,597,629	19,566,017	Wheat	161,828,930
Flour	4,095,297	2,352,444	Flour	30,302,329
Oats	1,855,300	1,566,996	Oats	21,251,424
Oatmeal	544,455	488,699	Oatmeal	2,454,517
Peas	643,281	330,544	Peas	3,134,693
Barley	637,571	593,277	Barley	28,910,949
Cattle	10,932,539	10,260,137	Cattle	45,945,864
Sheep and lambs	1,302,824	227,186	Sheep and lambs	914,144
Apples	2,634,608	2,511,195	Apples	9,134,329
Totals	78,961,636	73,336,430		588,114,837

THE EXPORT BUTTER TRADE.

The total quantity of butter exported from Canada during the year ended March 31, 1907, was 18,078,508 pounds, valued at $4,011,609. For the same period in 1905-6 the exports were 34,847,354 pounds, valued at $7,192,450. Owing to the high prices that prevailed for cheese, there was a decreased production of butter, which accounts for the reduction in the exports. A feature of the export trade during the year 1906-7 was the considerable quantity of Canadian dairy butter which was re-shipped from

England to Canada during the fall and winter months, and obviously sold here at a profit after paying all charges both ways. The product of the best Canadian creameries gave splendid satisfaction in the old country markets, but as much cannot be said for the bulk of the butter exported. Mould was complained of to some extent, as well as the excessive use of salt. Many shippers did not sack their boxes, with the result that the packages very often presented a soiled appearance, and some buttermakers continued the use of cheap inferior parchment to the great detriment of their product. These are a few of the handicaps that our export butter trade suffered from last season. In London the average price for Canadian creamery butter for the six months ending November 30, was 109 s., as compared with 105 s. the year before. In the Bristol market for the same period the price averaged about 114 s., as compared with 112 s. in 1905. The total quantity of butter imported into the United Kingdom for the year ended March 31, 1907, was valued at $113,027,296, of which Canada supplied $3,805,925 worth.

Our Liverpool inspector in his annual report covering the season of 1906 makes the following reference to butter shipments:—

'There has been a great falling off in shipments of butter to this port this season, but I have noticed more boxes than ever coming without sacking. This is a great mistake on the part of the butter shippers, for I am certain that if they could only see the difference in appearance between covered and uncovered packages on landing here, they would not ship another box without a cover. The steamship companies have done good work in carrying butter this season, landing it here in perfect condition.'

Our Glasgow inspector's reports show that the shipments of Canadian butter have been landed at that port in good condition, with the exception of one consignment shipped in August in ordinary storage and which, naturally, arrived in a very soft condition and off in flavour. Some of this butter rapidly developed mould, causing the importers considerable trouble and creating a bad impression generally. This instance shows the folly of shipping butter across the Atlantic during the summer season in anything but cold storage.

At the close of the Montreal shipping season our Glasgow inspector commented as follows *re* the bagging of butter packages:—

'The majority of the packages imported were bagged and the advisability of this system cannot be too strongly advocated for Glasgow when one observes boxes of butter in close proximity to a space in the shed into which grain is being discharged from the steamer by elevator with all the attendant dust. The bags make a much more attractive and cleanly package when stripped and also serve as a protection in the event of breakage. One lot of boxes coming under my notice this year was without bags, and as the covers were badly fitted, many of them were broken during unloading and discharging, the butter as a result being exposed.'

THE EXPORT CHEESE TRADE.

The exports of cheese for the year ended March 31, 1907, amounted to 178,141,567 pounds, valued at $22,006,584. Exceptional prices prevailed throughout the entire season, which must have been a very satisfactory one for dairymen. According to the figures compiled by the *Montreal Gazette*, the price of cheese in Canada for the season of production would average 11¾ cents per pound, the highest on record. There was a very strong demand in Great Britain, due to greatly increased consumption, in some quarters the increase being estimated at 25,000 boxes per week. In London the price of Canadian cheese for the seven months ended November 30, averaged 5s. 6d. per hundred-weight higher than for the previous year.

Very little improvement was shown in the condition of the boxes on arrival at the ports in Great Britain last season, and the usual complaints were received regarding the indistinct branding of many of the boxes. The following extracts from the annual report of our Liverpool cargo inspector refer to these two points:—

'The imports of cheese have been fully up to the shipments of the last two seasons as regards quality, but there has been little, if any, improvement in the quality or condition of the boxes. There is a lot of cheese landing here in very rough condition, owing chiefly to the poor condition of the boxes. There have been two or three new materials tried for making boxes, such as tin and very thick cardboard, but these are not so satisfactory as wood. The cheese from the government cool curing rooms have again been in excellent condition, and if this quality of box became universal there would be very little to complain of *re* broken boxes. The patent stitched boxes have also been in excellent condition, and this is a very good idea for saving breakages. It has been suggested to me by two of the master stevedores of the leading shipping companies, that, if the cheese were put up in boxes not exceeding 65 pounds weight there would be considerably less breakage. They say that men unloading cheese from a ship will not lift cheese of 80 pounds weight that are stowed ten or twelve high, but will pull out one of the bottom boxes in the tier and allow the cheese above to fall on the deck, thus breaking many boxes. They say that if the cheese were 60 to 65 pounds the men would lift these cheese down right from the top tier and save a lot of breakage that occurs in letting them fall.

'I have noticed a few lots of cheese this season that have been badly branded. By this I mean that the shipping mark has been very indistinct. This also applies to factory marks, even in a more marked degree, as many of these are so blurred as to be indistinguishable. There is a lot of cheese coming without any factory marks, and I think it would be a good idea if all cheese makers were compelled to put the factory mark on their boxes.'

It is very gratifying to note that the fine reputation possessed by Canadian cheese in the markets of Great Britain was not only maintained last season, but was enhanced. Importers generally were well pleased with the quality and condition, and the following complimentary reference appeared in the annual review of Messrs. Weddel & Co., of London, who are large importers of colonial dairy produce:—

'The quality of Canadian cheese last year not only fully maintained its former reputation, but on the whole it was improved. The Canadian cheesemaker, like the Danish buttermaker, has become so proficient in his art that it is seldom necessary to unfavourably criticise his work. Wherever an inferior quality is produced in Canada it is more generally found to be due to want of suitable surroundings or to the uneconomical methods and customs of some factory, together with defective transit, rather than to the lack of art in the cheesemaker. The improvement in the conditions of transit and in the shipment to this country and discharge at our ports, which has taken place during the last year or two, has resulted in Canadian cheese arriving on our markets in a much better condition than it did formerly. The weak spots in the Canadian cheese industry lie in the terms of engagement usually made with the managers of the factories, and the practice of factories generally allowing their produce to come to this country without any indication on the boxes as to the factory where it was manufactured, makers thereby losing the advantages to be derived by advertising a good article.'

Under the heading 'Shipping Arrangements,' the following statement appears in the *Review*:—

'The greatest advance, however, in shipping arrangements has been effected in the Canadian trade by the establishment of cold stores for butter, and cold rooms for cheese at the Surrey Commercial docks in London. The plant, discharging arrangements, proximity of the vessels to stores, and everything in connection with the new venture are so far superior to the antiquated accommodation previously afforded at Tilbury and the Commercial Road stores, that the great bulk of the Canadian cheese trade has gone to the Surrey Commercial docks. The improvement in accommodation and storage has been of immense benefit to everyone dealing in Canadian cheese.'

The only serious criticism heard last season from British importers had reference to the pernicious practice of shipping Canadian cheese in a green condition, which was

followed to such an extent in 1906. On account of market conditions cheese were rushed from the factory within a few days from the time they were taken from the hoops, and, in this immature condition, were shipped to the old country. If the factorymen persist in following this course they will assuredly kill the goose that lays the golden egg, and have no one but themselves to blame for it.

CHEESE IMPORTS INTO THE UNITED KINGDOM.

In the following table is shown the quantity of cheese imported into the United Kingdom during the past seven years, and the percentage supplied by different countries:—

FROM BRITISH TRADE RETURNS, YEARS ENDED DECEMBER 31.

From.	1900.	1901.	1902.	1903.	1904.	1905.	1906.
	Cwt.	Cwt.	Cwt.	Cwt	Cwt.	Cwt.	Cwt.
Canada	1,511,872	1,547,739	1,709,565	1,848,142	1,900,556	1,858,767	1,925,835
United States	680,583	540,102	390,479	360,916	224,830	175,256	233,425
Holland	327,382	315,923	284,020	362,503	233,601	214,033	220,343
New Zealand	77,617	79,094	51,875	56,339	84,947	78,626	126,216
Other Countries	108,424	103,979	110,273	126,458	110,363	116,000	123,957
Total	2,705,878	2,586,837	2,546,212	2,694,358	2,554,297	2,442,682	2,638,776
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
Canada	55·8	59·8	67·2	68·6	74·4	76·1	73·0
United States	25·1	20·9	15·3	13·4	8·8	7·2	8·8
Holland	12·0	12·3	11·2	11·2	9·1	8·7	8·7
New Zealand	2·9	3·0	2·0	2·1	3·3	3·2	4·8
Other Countries	4·2	4·0	4·3	4·7	4·4	4·8	4·7
Total	100·	100·	100·	100·	100·	100·	100·

THE EXPORT FRUIT TRADE.

The enterprise of Canadian apple shippers, and perhaps the excellent quality of the Canadian apple, are demonstrated by the fact that Canadian apples are now being shipped to 21 different countries, as follows:—

Great Britain, Germany, France, United States, Newfoundland, South Africa, Holland, Bermuda, Denmark, Cuba, Mexico, St. Pierre, Australia, Norway, British West Indies, Belgium, New Zealand, British Guiana, Fiji, China and Hong Kong.

Of these, Great Britain, Germany, France and the United States are our largest customers, but relatively we are sending a fair quantity of apples to Newfoundland, South Africa, Holland and Bermuda.

It would seem desirable to push the sale of Canadian apples over as wide an area as possible. In a product that depends so much on the local supply in the various countries to which we export, there is a very great advantage in having commercial connections in many different countries. The sale of apples abroad does not depend altogether upon the quality of the fruit, or even upon the means of transportation. Much depends upon mutual confidence between the buyer and seller, but much depends also upon gaining the confidence of the consumers, and this can only be done by giving them an opportunity to sample the goods and thus determine their good qualities by actual test. Under these circumstances, it is very desirable that as many as possible of these 21 markets should receive some shipments every year so that close commercial relations may be maintained and the reputation of our fruit kept constantly before as many customers as possible. If one market is somewhat overstocked we will thus have an easy introduction into another.

IMPROVED TRANSPORTATION FACILITIES FOR FRUIT.

In July last the Dairy Commissioner issued a circular to fruit shippers stating that, by virtue of an agreement made with this department, the Grand Trunk and Canadian Pacific Railway Companies would supply, from August 1 to September 30, iced cars for the carriage of carloads of fruit to Montreal or Quebec, for export; the cars to be furnished by the railway companies on request of the shippers, and the department to pay icing charges to the extent of $5 per car. This service was duly put into operation and one hundred and two carloads of fruit, largely early apples, were shipped during the period named.

In order to get some information regarding this special service, a form was prepared by this division, and a supply mailed to a large number of apple shippers. A number of addressed envelopes were inclosed, and the shipper was requested to fill out one form for each car shipped and mail same to our Montreal office not later than the day of shipment. Unfortunately, as only five shippers took the trouble to fill in and forward this form, we did not derive much information from it. To the five shippers in question, namely, The Forest Fruit Growers' Association, Forest, Ont., M. J. Gillard, Grafton, Ont.; Chas. A. Watts, Thamesville, Ont.; F. A. Sweetman, Trenton, Ont., and John Brown, Brighton, Ont., our thanks are due for their courtesy in complying with our request. The following is a copy of the form referred to:—

Department of Agriculture,

Dairy Commissioner's Branch.

Special Iced Car Service for Export Fruit.

Kindly fill out and mail this form in the inclosed envelope not later than day of shipment.

Memo. *re* Shipment of Export Fruit.

.....190....

I have shipped to-day from..... station ..... barrels of apples in ..... iced car No..... for export via the..... Railway to Montreal, thence by the..... SS. line to.....
(Port of destination.)

.....
(Shipper.)

....

If the shipper will furnish the following additional details it will facilitate the efforts of the department to locate and remedy any defects in the service that may exist.

1. Were the car doors tight, and was the car generally in good condition?

....

2. Was the car well iced when loaded (state whether bunkers were full of ice, two-thirds full, or one-third full)?

....

3. Were the apples loaded direct from the orchard or from a storehouse?

....

4. What was the temperature on day of loading: (*a*) of the apples in the barrels .....(*b*) outside in shade at mid-day.....

NOTE.—These temperatures would be helpful to the Department, but if they cannot be obtained without delaying the report, omit them.

Report by Montreal Inspector.

Car No..... arrived..... unloaded.....
Condition of car.....
Temperatures of fruit inside packages.....
Shade temperature outside.....
Remarks .....
.....

HEATED APPLES AT MONTREAL.

A considerable proportion of the early apples shipped to Montreal for export during August, September and the early part of October reached that port in a heated condition. As they were picked and packed in hot weather, and in the majority of cases shipped in an ordinary box car, it is not to be wondered at that many lots showed signs of decay when they were unloaded from the cars at Montreal. To illustrate the condition of many of these shipments of early apples when they reached Montreal, I will quote the fruit inspector's report on the condition of the apples loaded in the SS. *Ionian,* which sailed for Liverpool on September 21.

Date of Inspection.	Temperature.		Condition of Apples.
	In Dock Shed.	Of Fruit.	
	Degrees.	Degrees.	
September 19	76	66	Good.
" 19	64	70	"
" 21	64	68	"
" 21	64	66	"
" 21	72	70	"
" 21	78	72	Heated.
" 21	78	70	Good.
" 21	64	80	Poor condition, heated.
" 21	66	76	" "
" 21	66	75	" "
" 21	66	76	Heated.
" 21	66	72	Good.
" 21	66	70	"
" 21	66	70	"
" 21	75	78	Heated.
" 21	68	78	"
" 21	66	64	Good.
" 21	66	76	Heated.

SHIPMENTS OF CANADIAN PEARS.

A feature of the export fruit trade last season was the number of shipments of Canadian pears to Great Britain. According to our inspectors' reports these shipments were distributed as follows: Glasgow, 14 shipments, 2,846 cases; London, 4 shipments, 587 cases and 161 barrels; Liverpool, 8 shipments, 793 cases and 11 barrels; Manchester, 2 shipments, 174 cases. These pears were all landed in good condition with the exception of one shipment in October and one in November, which were carried in ordinary storage and were discharged in bad order. The October shipment was billed as 'apples,' and was not inspected at Montreal, but the November shipment was examined by the fruit inspector, and reported in 'soft' condition. The Biggs Fruit & Produce Co., Ltd., of Burlington, Ont., made regular shipments to Glasgow and Liverpool, of Bartlett pears, packed in twenty-pound boxes, and each consignment was landed in good condition. These pears were carried by express from

Burlington to Montreal, and in cold storage from Montreal to port of destination. The quality of these pears was much appreciated in Great Britain, and they realized good prices.

INSPECTION OF ICED CAR SERVICES FOR BUTTER, SEASON 1906.

The special iced car service for butter operated by the different railway companies under an arrangement with this branch of the Department of Agriculture was commenced on May 7 and closed on October 21, cars being operated over sixty-one different routes. This was a considerable extension in the service compared with 1905, when the number of routes was fifty-one. Five inspectors were employed during the season, as follows: two at Montreal, two travelling over the iced car routes in Quebec and one over the routes in Ontario. The duties of the inspectors were to report the conditions under which the butter was hauled from the creameries to the railway stations, the temperature of the butter when loaded into the cars, the condition in which they found the cars, and whether they were well iced or not. The inspectors at Montreal examined the butter arriving in the iced cars and reported the temperature and condition of the butter, the condition of the cars, quantity of ice remaining in the bunkers, &c. They paid particular attention to the packages that had been tested and marked at the shipping points by the travelling inspectors, making a note of the temperatures as soon as these packages were unloaded from the cars.

BUTTER TEMPERATURES AT RAILWAY SHIPPING POINTS.

During the season the inspector travelling on the Grand Trunk Railway and Canadian Pacific Railway, and connecting lines, in the eastern townships, made three or more tests of butter shipped from 95 creameries, the average results of which are shown in the following table:—

AVERAGE TEMPERATURES OF BUTTER AT QUEBEC RAILWAY SHIPPING POINTS, SEASON 1906.

Creamery.	Location.	Line.	Number of packages tested.	Average temperature.
				Degrees.
Lawrenceville B 2	Lawrenceville	O. M. & C. P. R.	4	38·0
Shipton	Danville	G. T. R.	7	40·1
Compton	Compton	"	3	42·6
W. W. Reed	North Hatley	B. & M. & C. P. R.	14	43·2
Hatley Centre	"	"	13	43·7
Crown	Iron Hill	C. P. R.	25	43·9
Kingsey	Kingsey	G. T. R.	11	44·1
Silver Lake	Eastman	O. M. & C. P. R.	13	44·1
Daisy A	Kingscroft	B. & M. & C. P. R.	14	44·2
B 12	St. Pie	C. P. R.	4	44·2
Lawrenceville B 9	Lawrenceville	O. M. & C. P. R.	4	44·2
Warden Reg. No. 2	Warden	C. P. R.	6	44·3
Ladd's Mills	Ladd's Mills	G. T. R.	9	44·4
Kensington	Kensington	"	8	44·7
Way's Mills	Wayville	B. & M. & C. P. R.	9	44·9
St. Francis	Richmond	G. T. R.	11	44·9
Silver Star	Bedford	C. P. R.	12	45·2
Dale 17	St. Hermenégilde	G. T. R.	13	45·3
St. Francis F. & M		C. P. R.	4	45·5
Dunham T 35	Dunham	"	16	46·5
G. A	Sherbrooke	G. T. R.	5	46·6
B 25	N. Dame de Stanbridge	C. P. R.	10	47·0

AVERAGE TEMPERATURES OF BUTTER—*Continued.*

Creamery.	Location.	Line.	Number of packages tested.	Average temperature.
				Degrees.
Rose H.	St. Elwidge.	G. T. R.	12	47·1
Franklin Centre.	Franklin	"	17	47·2
Rang Double		C. P. R.	4	47·2
St. Dominique B 2	St. Dominique	G. T. R.	4	47·2
Kelso.	Kelso.	"	3	47·3
Sawyerville.	Sawyerville	C. P. R.	35	47·3
West Shefford.	West Shefford.	"	34	47·7
Ash J. A. S.		G. T. R.	4	47·7
J. E. G.	Bromptonville	"	12	48·0
Ayer's Cliff.	Ayer's Cliff.	B. & M. & C. P. R.	14	48·0
Magog, A. C.	Magog	C. P. R.	55	48·0
Lily Dale	L'Ange Gardien	"	7	48·2
Mystic Gem	Mystic	"	10	48·3
Holton.	Holton.	G. T. R.	8	48·3
Melboro J. M.	Melboro	O. M. & C. P. R.	11	48·5
Mount Oxford.	Cherry River.	C. P. R.	51	48·5
Dale I.		"	3	48·6
Dale 3.	Coaticook	G. T. R.	12	48·8
76.	Bromptonville	"	16	49·3
Maple Leaf.	Laroche.	C. P. R.	24	49·4
Barnston.	Barnston.	G. T. R.	13	49·5
Knowlton.	Knowlton	C. P. R.	12	49·8
Mountain Vale.	Eastman.	O. M. & C. P. R.	13	49·9
East Hatley 981.	East Hatley.	B. M. & C. P. R.	15	50·0
Cowansville.	Cowansville	C. P. R.	16	50·1
M. 76	St. Pie.	"	9	50·3
D. 9.	Pauline	"	3	50·3
St. Dominique A. 207.	St. Dominique	G. T. R.	3	50·3
Hemmingford No. 2.	Barrington	"	5	50·8
W. H. Stewart	Frontier.	"	16	51·0
St. Dominique B.	St. Dominique.	C. P. R.	3	51·0
J. A. M.	Brosseau	G. T. R.	4	51·0
Rose Bud	Racine.	O. M. & C. P. R.	8	51·1
Green Valley.	Mansonville.	C. P. R.	25	51·2
Vale Perkins	Vale Perkins.	"	22	51·2
St. Etienne H. 211.	St. Etienne.	"	58	51·2
Elm Bank.	Abbotsford.	"	5	51·4
Fitch Bay	Fitch Bay.	B. & M. & C. P. R.	9	51·5
Warden No. 21.	Warden.	C. P. R.	9	51·5
Katevale T. 66.	Katevale.	"	59	51·8
Olive Factory	L'Ange Gardien.	"	4	52·0
Lilac	Abbotsford	"	4	52·0
Canadian.	St. Edward	G. T. R.	9	52·4
Sherrington No. 1.	Sherrington.	"	13	52·6
Napierville No. 2	Napierville	"	12	52·7
Ivy.	L'Ange Gardien	C. P. R.	7	52·8
Douglasburg No. 1.	Douglasburg	G. T. R.	8	52·8
Wickham.	Wickham.	C. P. R.	11	52·9
St. Isidore.	St. Isidore.	G. T. R.	12	53·0
St. Dominique R. 29	St. Dominique	C. P. R.	5	53·2
F. & S	Hemmingford.	G. T. R.	16	53·5
Yamaska	Yamaska	C. P. R.	6	53·5
F. & M. 57.	St. Pie.	"	11	53·6
St. Hugues R. 200.	St. Hugues	"	13	53·6
St. Simon $\frac{\text{N.D.}}{12\text{M.}}$	St. Simon.	"	7	53·7
$\frac{\text{R}}{105}$	St. Valérien	"	8	53·8
St. Dominique $\frac{\text{H}}{\text{B}}$ 28.	St. Dominique	"	4	54·0
Hemmingford	Hemmingford	G. T. R.	4	54·2
Purdy's.	South Stukley.	C. P. R.	47	54·3
Hillcrest 1 Canada	St. Hugues.	"	4	55·0
St. Simon N. T. $\frac{594}{\text{M}}$	St. Simon.	"	4	55·0

AVERAGE TEMPERATURES OF BUTTER—*Continued.*

Creamery.	Location.	Line.	Number of packages tested.	Average temperature.
				Degrees.
Hillcrest	St. Théodore	G.T.R.	3	55·3
Winslow No. 1	Winslow	C.P.R.	3	55·3
Canadian R. P. Produce	St. Rémi	G.T.R.	8	55·6
Maple Brand	"	"	4	55·7
Rockside 8		C.P.R.	9	55·9
689 G	Scottstown	"	3	56·0
Beranger	Beranger	"	4	56·5
W. H.	Huntingdon	G.T.R.	3	56·6
7th Rang	Acton	"	3	57·3
I 58	"	"	3	58 0
J. A. V.	St. Michel	"	3	58·6
F 62	White River	"	3	61·0

The inspector travelling on the North Shore line of the Canadian Pacific Railway, on the Intercolonial, Quebec Southern and Great Northern railways, made three or more tests of butter shipped from 78 creameries, as follows:—

AVERAGE TEMPERATURES OF BUTTER AT QUEBEC RAILWAY SHIPPING POINTS SEASON 1906.

Creamery.	Location.	Line.	Number of packages tested.	Average temperature.
				Degrees.
Préfontaine & Frère	Isle Verte	I.C.R.	4	42·2
F. & P. Cyr	Lepage	C.P.R.	6	45 0
M. Grenon	St. Barnabé	Q.S.R.	3	45·6
G. Langlois	Rivière du Loup	I.C.R.	3	47 3
Société Côte des Erables	Isle Verte	"	3	47·6
Dandonneau & Mondor	St. Damien	C.P.R.	3	48·0
J. Beaulieu	St. Flavie	I.C.R.	3	48·6
F. & P. Cyr	Bruchesi	C.P.R.	6	49·0
M. Beaulieu	St. Paul	I.C.R.	3	49 0
St. Barnabé Creamery	St. Barnabé	Q.S.R.	5	49·0
Ant. Alarie	St. Jérôme	G.N.R.	5	49·6
W. Gareau	St. Jérôme Crossing	"	3	50·0
J. A. Samdon	St. Arsène	I.C.R.	3	50·3
Pierre Brault	St. Sébastien	Q.S.R.	3	50·6
M. Dupré	St. Louis	"	3	51·3
M. Houle	St. Jude	"	3	51·6
Louis Lussier	Rougemont	"	3	51·6
E. H. Morin	Henryville	Q.S.R.	4	52·0
A. Breton	St. Epiphane	I.C.R.	3	52·0
H. Lafrance	Grand Freniere	C.P.R.	3	52·3
H. Lafrance	St. Joseph	"	6	52·8
O. Bernier	St. Lin	"	3	53 0
Pierre Langlois	St. Angele	I.C.R.	3	53·3
P. Plante	St. Joseph	C.P.R.	3	53·6
3rd Range	Isle Verte	I.C.R.	3	53·6
T. St. Georges	St. Paul	G.N.R.	3	53·6
O. Cardinal	St. Roch	C.P.R.	6	54·0
J. A. Roy	St. Jean de Matha	"	3	54·0
S. Comtois	St. Janvier	"	3	54·0
O. Briere	Mont Carmel	"	4	54·0
Jas. Particnais	Vaucluse	"	3	54·3

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AVERAGE TEMPERATURES OF BUTTER—*Continued.*

Creamery.	Location.	Line.	Number of packages tested.	Average temperature.
				Degrees.
J. E. Thériault	St. Modeste	I.C.R.	3	54·6
J. M. St. Pierre	St. Flavie	"	3	54·6
C. Guitard	St. Joseph	C.P.R.	12	54·6
E. Dumas	St. Epiphane	I.C.R.	3	55·3
J. O. Naud	St. Bazile	C.P.R.	6	55·5
Ludger Lamothe	Clarenceville	Q.S.R.	4	55·5
Fortin & Marceau	Stottsville	G.T.R.	3	55·6
Riverside Creamery	St. Bazile	C.P.R.	10	55·8
M. E. Tremblay	Clarenceville	Q.S.R.	4	56·0
G. Lanthier	St. Augustin	C.P.R.	9	56·4
M. Laporte	St. Ambroise	I.C.R.	3	56·6
Alb. Morrisette	St. Mélanie	"	3	56·6
Vézina & Mathe	Cap Santé	C.P.R.	3	57·0
Geo. Bélanger	St. Antoine	I.C.R.	3	57·0
J. O. Naud	Portneuf	C.P.R.	6	57·1
Wilf. Ferron	St. Léon	"	3	57·3
Comtois & Monier	St. Thomas	"	3	57·3
J. E. Binette	St. Eustache	"	9	58·3
M. Meunier	Henryville	Q.S.R.	3	58·6
A. Rainville	St. Gabriel	C.P.R.	3	58·6
E. Dion	St. Thomas	"	3	59·0
Syndicat St. Paul	Isle aux Noix	G.T.R.	4	59·2
G. Marion	Isle Janvier	C.P.R.	3	59·3
Donat Ferron	St. Paulin	G.N.R.	3	59·3
F. Lapointe	St. Maurice	C.P.R.	4	59·5
Eug. Boucher	Cast Hill	"	3	59·6
M. Boucher	Joliette	"	3	60·0
X. Brault	St. Felix	"	3	60·3
J. Kimpton	Shawbridge	"	3	60·3
Jos. Fleury	St. Léon	"	3	60·6
D. T. Brunet	Chicot	"	6	61·0
O. Roberge	St. Félix	"	3	61·3
Hardy & Frère	St. Bazile	"	7	61·8
E. Brosseau	St. Adèle	"	3	62·3
O. Gareau	St. Jean de Matha	"	3	63·3
Fortin & Marceau	Napierville	G.T.R.	4	63·7
J. Lafrance	St. Eustache	C.P.R.	3	64·0
E. Brosseau	St. Marguerite	"	3	64·6
H. Constantin	St. Alexis des Monts	G.N.R.	3	64·6
Jos. Shaw	Morin Flats	C.P.R.	3	65·0
H. Bergeron	St. Paulin	G.N.R.	3	66·3
P. Allard	St. Alexis des Monts	"	3	66·3
Ed. Brosseau	St. Sauveur	C.P.R.	3	67·0
Esdras Bellemare	Maskinongé	"	3	67·3
Luc Bellemare	St. Barnabé	G.N.R.	3	67·6
O. Gelinas	"	"	3	67·6
A. Milot	Louisville	C.P.R.	3	68·0

The inspector travelling in Ontario made three or more tests of butter from 28 creameries, and also three or more tests of 22 different lots of dairy butter. The average temperatures of the creamery butter and the dairy butter at the shipping points were as follows:—

AVERAGE TEMPERATURES OF CREAMERY AND DAIRY BUTTER AT ONTARIO SHIPPING POINTS, SEASON 1906.

Creamery Butter.	Number of Packages Tested.	Temperature.	Dairy Butter.	Number of Packages Tested.	Temperature.
		Degrees.			Degrees.
Lindsay V.R.	3	32·0	Centralia (F. & G.)	4	53·0
Fergus	5	40 0	Bowmanville	4	57·2
Princeton	3	40·0	Blyth (L.)	4	57·7
Dundalk	5	42·0	Ripley (A.)	3	58·0
Dungannon	5	42·9	Dundalk (R.)	3	58·6
Neustadt	5	44·0	Shelburne	4	59·2
Brussels	5	46·9	Newton	4	60·5
Underwood	3	50 0	Mount Forest	3	61·3
Exeter (J. & C.)	3	50·0	C. W. Riley (Clinton)	10	61·8
Parker	3	50·6	Seaforth A. D. 55	4	65·0
Exeter (W.)	3	51·3	Parsons, Davis & Co. (Centreville)	6	66·0
Holmesville	18	51·9	Berlin	9	66·0
Peterboro	4	52·0	Ayr (R.)	4	68·0
Eldon	4	52·0	Grand Valley	3	68·0
Exeter (Ayrshire Rose)	4	52·0	Sebringville	4	68·3
Holmesville 100	7	52·2	J. W. Skinner (Park Hill)	5	69·4
Clinton	4	53·0	W. Packard, Seaforth	3	70 0
Wiarton L. S.	4	53·7	J. W. Skinner, Ailsa Craig	5	70·8
Petersburg	6	53·8	Geo. Powell, Seaforth	3	71·3
Exeter 55	14	54·2	Centralia (W.)	4	72·0
Paisley	6	55·0	Hensall (A.)	4	72·5
Orangeville (76)	4	56·0	Tilbury (F.M.)	4	74 0
Baden	12	56·4			
St. Dominique	7	56·8			
Lucan (X)	4	58·0			
Cedars	3	60·0			
Seaforth (A. P.)	5	61·6			

NOTE.—In some cases the name of the creamery is given, in others the name of the railway shipping station.

As already stated, special marks were placed by the travelling inspectors on a few of the packages of butter tested by them at the different stations, and these packages were watched for and again tested at Montreal, in order to ascertain if the butter had become warmer or cooler during the journey. These tests have been carefully calculated and the average temperatures worked out as shown in the following table:—

AVERAGE temperatures of 1,173 marked packages of butter tested at railway stations in the provinces of Ontario and Quebec, and the average temperatures of these same packages when unloaded from refrigerator cars at Montreal.

SEASON OF 1906.

—	Number of cars carrying marked packages.	Number of marked packages tested at shipping points and at Montreal.	Average temperature at shipping points.	Average temperature at Montreal.	Increase in temperature.	Reduction in temperature.
			Degrees	Degrees.	Degrees.	Degrees.
Ontario via. C.P.R..	3	21	57·7	53·7	.....	4·0
" G.T.R.....	14	105	56·9	53·4	.....	3·5
Quebec (North of St Lawrence) via. C.P.R.....	14	179	58·5	56·5	.....	2·0
Quebec (South of St. Lawrence) via. C.P.R.....	48	651	50·6	52·4	1·8	.....
Quebec via. G.T.R.....	20	145	51·2	52·7	1·5	.....
" I.C.R.....	3	43	51·1	54·5	3·4	.....
" Q.S.R	3	24	51·2	49·2	.....	2·0
" G.N.R.....	1	4	66·0	61·0	.....	5·0
Totals	166	1,173				
General Average....	... .		52·6	53·2	0·6	....

In the whole season the two inspectors stationed at Montreal inspected and reported upon 1,256 cars, giving the number of packages of butter in each car, the weight of the packages, number of packages tested and the temperature of each. A summary of their work is given in the following table:—

MONTREAL INSPECTION OF REFRIGERATOR CARS CONTAINING BUTTER, SEASON OF 1906.

—	Number of Cars Examined.	Number of Packages in Car.	Weight of Packages.	Number of Packages Tested.	Average Temperature.
			lbs.		Degrees.
C. P. R.....	501	155,956	9,845,644	1,620	53
G. T. R.	375	110,575	7,022,343	1,187	55
I. C. R....	109	43,413	2,892,058	344	55
Q. S. R.....	35	7,032	444,143	122	54
O. C. R.....	34	10,423	680,888	122	52
G. N. R.	95	19,471	1,272,724	367	56
C. V. R.	107	21,680	1,470,055	247	57
Totals...	1,256	368,550	23,627,860	4,009	

In order to give a better idea of the refrigerator car services operated under the Department's guarantee during the season of 1906, I shall make a brief reference to the service maintained by each railway.

Canadian Pacific Railway.—On the C. P. R. the icing was better attended to in the season of 1906 than heretofore, and, judging from the inspectors' reports, it looks as though there had been some improvement in several of the creameries shipping butter by this line; but this improvement was in the best section and amongst the best creameries. As shown in the above table, 1,620 packages of butter were tested in the freight sheds at Montreal, and the average temperature was 53 degrees. The

Quebec butter, which comprised four-fifths of the whole quantity carried, was under 53 degrees, while the butter from western Ontario was about 56 degrees, but the proportion of the latter was so small that 53 degrees remained the average. The C. P. R. cars carried an average load of 311 packages of butter, and 670 pounds was the average estimated quantity of ice per car when unloaded at Montreal. A noticeable improvement was shown in the service between Quebec and Montreal, and on the whole, the iced car service over this road may be said to have shown some improvement over the previous year.

Grand Trunk Railway.—On account of the necessity for amalgamating, at junction points, the butter collected by the cars running on the numerous branch lines, it is a very difficult matter to arrange the G. T. R. western iced car services so that satisfactory results will be obtained. Another handicap is the large quantity of dairy butter carried in these western cars. As this butter is usually very warm when loaded, it raises the temperature of the creamery butter carried with it; and as the packages are of different shapes and sizes, it is difficult to stow them properly, so that when the car reaches Montreal it is not uncommon to find several broken and their contents distributed over the other packages, which, of course, does not improve the appearance of the latter. In 1906, after our travelling inspector commenced his work, the cars from western Ontario were much better iced than in any previous year. Taking the whole service over the G. T. R., the proportion of butter from western Ontario was about one-third, with an average temperature at Montreal of 57 degrees. The remaining two-thirds comprised butter shipped from Quebec points, with an average temperature of not quite 54 degrees. The average load per car was 295 packages and 611 pounds was the average estimated amount of ice per car on arrival at Montreal. Speaking generally, the G. T. R. service in 1906 did not show any marked improvement over the preceding year, with the exception of the better icing and more careful loading on the western service referred to above.

Intercolonial Railway.—The I. C. R. put on a greatly improved iced car service for butter last season, as new cars were put into commission and the icing was much heavier than in former years. In order to show the betterment in this service I quote the following report received in June last from Mr. M. B. Longeway, our iced car inspector at Montreal:—

'MONTREAL, June 7, 1906.

'Mr. W. W. MOORE,
'Chief, Markets Division,
'Ottawa.

'I. C. R. Iced Car Service for Butter.

'DEAR SIR,—I take pleasure in informing you that the I. C. R. are operating this season a greatly improved and very fine service for the transportation of butter.

'You will doubtless remember the many objections I have made during the last two or three seasons, the poor cars in use, the smallness of their ice compartments, the lack of circulation, caused by what I considered faulty construction of the ice bunkers, the battered condition of the hatches, and lastly the poor icing. Usually the icing was light, and in the case of cars having four ice bunkers, only those in diagonal positions in the car were filled. This has all been changed this season. New cars have been constructed and, so far, these are the only ones in use in the special butter service. These cars are up-to-date and finely constructed, and all things considered, I believe them equal to, if not better than, the best refrigerator cars in use to-day. In these new cars the I. C. R. have adopted the Bohn system of refrigeration, retaining, however, the wired side space at top of the sides of car for the promotion of circulation, which was a commendable feature of their best cars of past years. The ice bunker capacity is larger, about 4 tons per car, with only one compartment at each end extending entirely across the car. The floors are dunnaged, with strips running across the car instead of lengthwise, and at first the freight handlers objected strenuously

to this on account of the difficulty in unloading, but I think they have partially overcome the difficulty by keeping boards in the sheds, which they place between the dunnage as they unload. The circulation of cold air is fine, and butter near the centre of the car receives much more benefit from the ice than in the old cars. So far this season these cars have been heavily iced, and if they keep up the quantity of ice that they are using now, you may confidently expect to see the I. C. R. the banner road—as regards temperatures—when the season's work is analyzed.

'I am looking forward with interest to the time when Mr. Bouchard, travelling inspector, visits the creameries and stations along the I.C.R. The lots of butter are small and I do not think that the little creameries make as much effort to cool their butter as is made by the creameries in the townships, but, the boxes are clean, the butter is good and, so far, the temperatures low, and a little effort all around ought to put that section equal to the best. Of course, I am writing of their butter as a class.

'Yours truly,

'(Sgd) M. B. LONGEWAY,
'*Iced Car Inspector, Montreal.*

'P.S.—I might say that the Quebec Southern car from Noyan is furnished by the I.C.R., and the Quebec Central is also using one of these new cars.

'M. B. L.'

Three hundred and forty-four packages, ex. I.C.R. cars, were tested at Montreal and gave an average temperature of 55 degrees. It will be noted that this is a higher temperature than shown by some of the other roads, but unfortunately the supply of ice on the I.C.R. became exhausted about the middle of September and, as the weather was unusually warm from that time until the close of the service on October 21, the butter was delivered from the cars in a warmer condition than usual and the average for the whole season considerably raised. In spite of the fact that no icing was done after the 15th September, the average quantity of ice per car for the whole season was 1,117 pounds, the highest of any of the lines. These cars were, as a rule, heavily loaded, averaging 398 packages per car for the season.

Quebec Southern Railway.—There was some improvement in the service on the Q. S. R. One of the new refrigerator cars built by the I. C. R. was used on this road, and the icing, as a rule, was well attended to. Thirty-five cars were inspected, fifteen at Bonaventure station and twenty at Place Viger. The average load per car was 201 packages and the average quantity of ice on arrival at Montreal was 625 pounds.

Quebec Central Railway.—A splendid service was inaugurated on this line last season and apparently no efforts were spared to deliver the butter in good condition. In all thrity-four cars were examined, namely, twenty-one at Bonaventure station and thirteen at Place Viger. The temperatures of 122 packages were taken and the average found to be a little less than 52 degrees. The average load was 306 packages and the average quantity of ice at Montreal 650 pounds per car. The cars were new and were a decided acquisition to our refrigerator transportation facilities.

Great Northern Railway.—Judging from reports received from our inspectors, I am of the opinion that this line has the poorest refrigerator cars in the subsidized service. One of the principal defects is that most of the doors in the cars are badly fitted. The cars were not as heavily iced as they should have been, and some rather high temperatures were found. On an average the cars carried 205 packages of butter, and 412 pounds of ice was the average estimated quantity per car on arrival at Montreal.

Central Vermont Railway.—This road has never participated in the arrangement made by this Department with the different railroads for the carriage of butter to Montreal for export, but it is expected that they will do so this coming season. As this line brings a considerable quantity of butter from the townships into Montreal, the cargo inspectors at the latter point have usually examined and reported on the

condition of these cars and their contents as well as the regular subsidized cars. In the season of 1906 the inspector reported on 107 cars from the C. V. R., which contained an average load of 202 packages of butter per car and an estimated average of 142 pounds of ice per car on arrival at Montreal. Many of the cars contained a mixed freight consisting of both butter and cheese. With the exception of a few New York Despatch refrigerator cars, most of the butter over this line was carried in ordinary freight cars which had been fitted with a double door and ice bunkers at each end. Some attempt had also been made at insulation, but with poor results, and as a consequence the ice in these cars melted very rapidly. Apparently the creameries served by this road deliver their butter to the cars in good condition, and if up-to-date refrigerators were in use this line would undoubtedly make a splendid showing as regards the temperature of the butter on arrival at Montreal.

THE SERVICE IN GENERAL.

At the close of the iced car service in October last the situation might be summed up about as follows: Decided improvement in cars on the Intercolonial and Quebec Central Railways; general improvement in the Quebec Southern Railway service; better icing during hot weather on the Intercolonial and on some of the Canadian Pacific Railway routes, and considerable improvement in the icing of some of the Grand Trunk Railway western cars. The most serious complaint about the iced car service made by butter shippers last season was the irregularity in the time of arrival of the iced cars. These cars are attached to way freights which are supposed to arrive at the various stations on schedule time, but which sometimes are several hours late. When this happens it means that at many of the butter shipping points served by that train, creamery and dairy butter, in large or small lots, is left for several hours on the station platform exposed to mid-summer heat. Of course, on many routes the car comes along each week right on time and the butter is loaded without delay. Under these conditions, if the butter is warm, the fault lies with the creamerymen and it must be confessed that last season, in the majority of cases, butter was delivered to the railroads at entirely too high a temperature. An instance of this was shown in the case of a shipment of butter loaded about the first of August into a Canadian Pacific Railway car at Three Rivers at a temperature of from 60 to 64 degrees and discharged from the car at Montreal at from 63 to 68 degrees. Compare the temperature of this lot of butter when loaded, with a shipment forwarded about the same time from Eastman, Quebec, the temperature of which when loaded averaged 49 degrees, and it becomes apparent at once where reform is most badly needed.

INSPECTION OF ICED CAR SERVICE FOR CHEESE.

The customary arrangement between this Department and the railway companies for the iced car service for cheese was again in force from July 2 to September 8 and, when their duties permitted, the refrigerator car inspectors at Montreal examined these cheese cars, noting the number of broken boxes, temperature of cheese, &c. Their reports covered 88 cars, in which very little heated cheese was found. Notwithstanding the exceptionally warm summer the temperature of the cheese ranged from 58 to 62 degrees, which was lower than for several years past. This was probably not altogether due to the railway service as it is likely that the improved curing rooms throughout the country were partly responsible for the cooler condition of the cheese on arrival at Montreal. About three per cent of the boxes were reported broken when unloaded from the cars, with the exception of lots from government cool curing stations, which had not over one half of one per cent of breakage. Occasionally last season a car of cheese arrived which had not been iced. This practice should be entirely discontinued, as we have found from experience that cheese shipped in un-iced refrigerator cars will arrive several degrees higher in temperature than cheese shipped in ordinary box cars. There is nothing to be gained by the use of refrigerator cars unless they are well iced before shipment.

HAULING OF BUTTER AND CHEESE SHOULD BE DONE BY CONTRACT.

The proper plan for carrying the butter from the creamery to the railway station is to have the work contracted for by some one who will furnish a specially equipped wagon with suitable covers for the protection of the butter from the heat of the sun, rain or dust. A contractor for work of this kind would be obliged to move the butter at the proper time, and to keep his conveyance in proper order. As a matter of fact, the hauling to the station of all cheese and butter should be done by contract. The patrons of the cheese factories that sent the cheese to the cool curing rooms under contract for several years, now say that they will never haul any more cheese themselves. They find the contract system to be much more satisfactory. Farmers are often called out to haul the load of cheese or butter when the time of a man and team is worth much more to them than the cost of hiring a substitute.

DELIVERY OF PRODUCE DELAYED.

The congestion of traffic on the railways during the present year has interfered considerably with the prompt delivery of butter and cheese at Montreal. It is to be hoped that the improvements in terminal facilities, now in progress, will relieve the congestion and enable the railways to make more prompt deliveries of such perishable products.

IMPROVEMENTS NEEDED AT MONTREAL.

The carting of the butter and cheese from railroads or river boats to warehouse, and then from warehouse to ocean steamers is a very objectionable feature in the transportation of these articles. The ideal arrangement would be to have a large central cold storage warehouse on the wharfs, served by railway sidings for receipt of goods and provided with conveniences for loading direct to the steamers. Of course it would not be possible to load all steamers direct from one warehouse, but the cartage for outward shipments would be much reduced, while that on inward shipments would be almost entirely eliminated. The annual charges for the cartage of the cheese and butter would easily finance an enterprise of this kind. The cartage on cheese alone amounts to about $59,000 per year. The saving of delay, the breakage of boxes and exposure to heat are all important considerations. In our opinion a cold storage warehouse of ample capacity located on the wharfs is quite as important to the trade of Canada as some other structures which do not appear to be very much used. It is to be hoped that before the harbour improvements are completed at Montreal, some plan of this kind may be worked out. The Commissioner has discussed it from time to time with those interested and the plan meets with general approval, but no one seems to be ready to take the initiative in the matter, and as time goes on, the difficulties of making satisfactory arrangements are increased by the erection of private cold storage warehouses in the produce district. A general scheme, which would include all vested interests, would be necessary to avoid hardship to some of the existing establishments. The advantage to the dairy trade of such an arrangement can hardly be overestimated.

ACKNOWLEDGMENTS.

In concluding this report I wish to record my appreciation of the good work performed during the year by the inspectors working under the direction of this division. In Great Britain the cargo inspection work was well looked after by Mr. A. W. Grindley and his staff, while at Montreal Mr. Wm. Macfarlane, chief cargo inspector, and Mr. M. B. Longeway, refrigerator car inspector, discharged their duties in a highly satisfactory manner.

I have the honour to be, sir,

Your obedient servant,

W. W. MOORE,

Chief, Markets Division.

PART IV.—FRUIT.

Ottawa, March 31, 1907.

J. A. Ruddick, Esq.,
Commissioner of Dairying and Cold Storage,
Ottawa.

Sir,—I have the honour to submit a report of the Fruit Division for the year ending March 31, 1907.

The work of the Fruit Division for the past year includes :

(1) The enforcement of Part IX. of the Inspection and Sale Act.
(2) The publication of a monthly fruit crop report.
(3) An inquiry with reference to the apple industry in Canada.
(4) Demonstrations in box packing of apples.
(5) Attendance and addresses at fruitgrowers' meetings.
(6) Assistance to fruitgrowers in other ways.

THE STAFF.

The staff consists of eight permanent and nine temporary inspectors. Occasional help in coopering is employed on the docks during the busy export season. The inspectors are distributed with special reference to the export and interprovincial trade as follows:—

British Columbia	1	inspector.
Alberta and Saskatchewan	1	"
Manitoba	1	"
Ontario and Quebec, including the ports of Montreal and Quebec	8	"
New Brunswick, including the port of St. John	2	"
Nova Scotia, including the port of Halifax	3	"
Prince Edward Island	1	"

In addition to the above Mr. M. R. Baker, B.S.A., was appointed during the year to assist me in the general oversight of the work. This was desirable for many reasons, but particularly for the purpose of maintaining uniformity in the work of the inspectors throughout the Dominion. The Fruit Marks Act prescribes the same standard of packing, marking and grading for the whole of Canada, implying that the same ideals of grading, packing and packages prevail everywhere. This is far from being the case.

The chief fruit districts are separated by thousands of miles, and have climates varying from the southern temperate to the Arctic. Under such circumstances it is absolutely necessary to have the inspectors under the personal influence of one or two individuals who can visit frequently all parts of the Dominion and correct any misconceptions with reference to grades and marking that may arise as the result of climate, modes of culture, or other local causes. The degree of uniformity that has been already established has added very much to the reputation and price of Canadian fruit in foreign markets.

During the shipping season Mr. Baker visited the maritime provinces, taking note of the inspection work there, but was employed for the most part at the port of Montreal. I visited the Northwest and British Columbia as well as the fruit districts of Ontario.

FRUIT INSPECTION.

The method of inspection remains practically the same as in former years, with this difference that the staff has been more thoroughly organized and are of course more thoroughly familiar with their duties, with the result that a much larger percentage of fruit was examined this year than in any other since the passing of the Fruit Marks Act.

The time of the staff at Montreal, Halifax and St. John has been distributed so as to have one or more inspectors on the docks night and day while fruit is being loaded.

The general principles that guide inspectors in their work may be condensed from their instructions as follows:—

1. Disturb the fruit as little as possible consistent with a thorough examination.
2. Leave fruit and package as nearly as possible as it was found.
3. When all fruit cannot be examined look at the pack of shippers previously convicted of fraudulent marking or packing, or those who have been warned.
4. Examine varieties likely to be wrong, such as those shipped out of season, those subject to insect or fungous pests, and those in poor packages.
5. Do not delay fruit in transit, except where violations are strongly suspected. Where there are reasonable grounds for suspecting fraud, do not hesitate to retain fruit till a thorough examination is made.
6. Do not interfere between buyer and seller, or allow your examination or inspection reports to be used for the advantage of either. Inspectors are in no sense referees.
7. Report promptly the condition of fruit and packages when either is defective.
8. Make a note of any rough handling of fruit by railway employees or longshoremen and report to their respective headquarters.

PROSECUTIONS.

It was found necessary this year to make thirty-seven prosecutions for violations of the Fruit Marks Act.

It is very noticeable in the export trade that the offence so common some years ago of facing barrels with good apples and filling the main portion of them with a poorer grade is rapidly disappearing.

INSPECTION OF SHIPMENTS VIA THE GREAT LAKES.

The apple producing districts of Ontario border on the Great Lakes and the Georgian Bay. It is therefore not remarkable that in the trade with the Northwest a very large quantity of the fruit is shipped from the lake ports. A careful inquiry was made from the various transportation lines doing business from the lake ports as to the quantity of fruit shipped by each. The aggregate reaches 128,000 barrels of apples. This is about one-third the total amount exported from the port of Montreal during the season, a quantity sufficiently large to demand considerable attention. The greater part of these shipments originate, of course, between Sarnia and Collingwood. The time of one inspector is very largely taken up during the shipping season with this fruit. But the fact that they originate at several different points makes it difficult to inspect any large proportion of the consignment. So far the trade has been moderately satisfactory. Nevertheless there is some cause for complaints in the way the fruit is handled, and still more complaint is made of the want of facilities for quick and safe handling at Port Arthur and Fort William.

In addition to the trade to the Northwest, there has grown up a very large trade with the ports on the north shore of the Georgian Bay, from which points the fruit is probably distributed to the miners' and lumbermen's camps, as well as to the new settlements of this district.

7-8 EDWARD VII., A. 1908

AMENDMENTS TO THE FRUIT MARKS ACT.

At the last session of Parliament the Fruit Marks Act was amended, the chief changes being in sections 4 and 6 which now read as follows :—

'4. Every person who, by himself or through the agency of another person, packs fruit in a closed package, intended for sale, shall cause the package to be marked in a plain and indelible manner, in letters not less than half an inch in length, before it is taken from the premises where it is packed,—

'(*a*) with the initials of his Christian names, his full surname, and his address, or, in the case of a firm or corporation, with the firm or corporate name and address;

'(*b*) with the name of the variety or varieties; and

'(*c*) with a designation of the grade of fruit, which shall include one of the following four marks, viz., "Fancy," "No. 1," "No. 2," "No. 3," but such mark may be accompanied by any other designation of grade or brand, provided that such designation or brand is not inconsistent with, or marked more conspicuously than, the one of the said four marks, which is used on the said package.

'6. No person shall sell, or offer, expose or have in his possession for sale, any fruit packed in a close package upon which is marked any designation which represents such fruit as of—

'(*a*) "Fancy" quality, unless such fruit consist of well grown specimens of one variety, sound, of uniform and of at least normal size and of good colour for the variety, of normal shape, free from worm holes, bruises, scab and other defects, and properly packed;

(*b*) "No. 1" quality, unless such fruit consist of well grown specimens of one variety, sound, of not less than medium size and of good colour for the variety, of normal shape and not less than ninety per cent free from scab, worm holes, bruises and other defects, and properly packed;

'(*c*) "No. 2" quality, unless such fruit consist of specimens of not less than nearly medium size for the variety, and not less than eighty per cent free from worm holes and such other defects as cause material waste, and properly packed.'

The following changes will be noted in section 4:—

1. A firm or corporation title may be used.

2. The numerals 1, 2 and 3 must be used to designate grades. X's may accompany them.

3. Markings must be in letters at least ½ inch in length.

The changes in section 6 are:—

1. The definition of the grades of fruit 'Fancy,' 'No. 1' and 'No. 2.'

2. The 'Fancy' is a new grade with no imperfect or small fruit.

No. 1 grade consists of 90 per cent perfect fruit, not less than medium size for the variety.

No. 2 grade must have 80 per cent of fruit free from defects that cause material waste and all the fruit must be nearly medium in size.

The changes introduced have been undoubted improvements. Comparatively little confusion has been experienced with reference to the new grades. Nevertheless the shippers were not all uniform either in their grading or in their marking.

The chief confusion in marking arose in connection with the use of numerals and X's to designate the grade of fruit. As was to be expected, a very large number of the shippers did not inform themselves of the change, and their first shipments were marked with X's only. All cases of this kind that came under the notice of the inspectors were followed by a letter to the shipper, and in only a few cases was the mistake repeated. Towards the end of the season an increasing number of shippers marked their fruit with numerals only.

MARKING OF APPLES.

A large number of shipers have preferred to mark their barrels with both numerals

and X's. In such cases the Fruit Division has assumed that 'XXX' corresponds with 'No. 1,' 'XX' with 'No. 2' and 'X' with 'No. 3.' Early in the season a few shippers graded their fruit 'No. 2 XXX.' They were warned that this use of 'XXX' along with No. 2 was contrary to the provisions of the Fruit Marks Act. The designations of grade given in section 4 (*c*) may only be accompanied by another designation of grade when such designation ' is not inconsistent with, or marked more conspicuously than the one of the said four marks which is used on the said package.' It was held that 'XXX' conveyed the idea of a higher grade than No. 2 and was therefore inconsistent with that grade mark. This indefiniteness was taken advantage of by certain shippers for fraudulent purposes. It will, therefore, be necessary in the interest of the trade, to insist upon consistency in the marking of packages. The use of such words as 'extra,' 'choice,' 'selected,' except with grades No. 1 and 'Fancy' are liable to constitute a violation of section 4 of the Fruit Marks Act.

MARKING SHOULD BE PLAIN AND INDELIBLE.

Very many complaints are yet made owing to the large number of shippers, more particularly for the local markets and the interprovincial trade, who mark their barrels with lead pencil only. The policy of the Fruit Division so far has been to warn shippers with reference to marks that are not 'plain and indelible,' but the line between a 'plain and indelible' mark and that which is not so, is so indefinite that there is frequently great difficulty in determining the line of demarkation. A mark that may be fairly plain and may, perhaps, be considered indelible at the time of shipping proves through the exigencies of transportation to be neither 'plain' nor 'indelible.' Shippers should provide themselves with stencils and stencilling outfit, so that they will not expose themselves to the liability of fines for violating section 4 of the Fruit Marks Act. The best substitute for a stencil is a rubber stamp. This, while it may be plain and indelible, it is not nearly so satisfactory in practice as a stencil, except on dressed lumber and for short inscriptions or numbers. It can be taken for granted that there are few, if any, marks made with a lead pencil, that will be regarded as 'plain and indelible.' Therefore, shippers who use only a lead pencil may render themselves liable at any time to be punished for violating section 4 of the Fruit Marks Act.

GRADING.

The change under section 6 from one defined grade to three defined grades, though somewhat radical, did not prove particularly confusing. This arose from the fact that the amendments protected the best growers and all well-intentioned packers in what would have been their practice without these amendments. A comparatively few fraudulently inclined dealers who traded upon the good reputation of Canadian marking and packing established by honest men, called for special attention from the inspectors.

FANCY GRADE.

Very few packages of the fancy grade were packed, and of those that were so marked a very large proportion were below grade. It is to be hoped that in the future a trade in the fancy grade of apples will be developed. The apple growers of Washington and Oregan are shipping a grade of fruit in comparatively large quantities that would correspond to our fancy grade. This proves that there exists a demand for this class of fruit. The only thing that remains for the Canadian grower is to exercise the same care and vigilance in the growing, grading and packing of his fruit as the American orchardists, to secure an equally good market.

NO. 1 GRADE.

No radical change was made in the No. 1 grade. It remained practically the same as last year. There was, however, a noticeable improvement in the grading on the part of a very large proportion of the better class of shippers. Nevertheless, it must be confessed that a few unscrupulous shippers have attempted to ignore the requirements for No. 1, and a few of these shipments have been the cause of some criticism in Great Britain.

GRADING TO SIZE AND COLOUR.

The greatest cause for complaint in the 'Fancy' grade and grade No. 1 is in the matter of grading for size and colour. This is important for all grades, but is almost an essential in Fancy and No. 1 fruit. It is a common error to suppose that a few large or very large apples will improve the sale of a lot of medium sized apples, or that a few highly coloured apples will improve the sale of a package containing for the most part apples of only good colour. The reverse is the case. Apples will bring most money when graded so that each package contains only fruit of the same size and colour. It is sometimes asserted by barrel packers that large and small apples in a barrel carry better than fruit of uniform size. The difference between the carrying properties of a well-graded barrel and a barrel of mixed sizes is too small to be taken into consideration, and by no means compensates for the lower price of the poorly graded fruit.

NO. 2 GRADE.

The utmost satisfaction has been expressed with reference to the establishment of a No. 2 grade. In former years, owing to the fact that there was no definition of a No. 2 grade, any grade of fruit below No. 1 could be marked and usually was marked No. 2. The effect, of course, in the local markets where the Act was well known, was to create a distrust of that particular grade, so that it had no market value. The conditions were much worse in the foreign markets. The Fruit Marks Act was not so well understood there, and it was presumed that the No. 2 grade was defined as definitely as the No. 1, and much dissatisfaction was expressed in past years with this No. 2 grade upon the assumption that it was a violation of the Fruit Marks Act not discovered by the fruit inspectors. This defect in the Fruit Marks Act has been remedied by the recent amendments, and now the No. 2 grade sells at fairly uniform prices upon the open market. There is not yet the same uniformity in the different packers' No. 2 grade that there is in the No. 1 grade, but the grade is sufficiently well established to command a place upon the market.

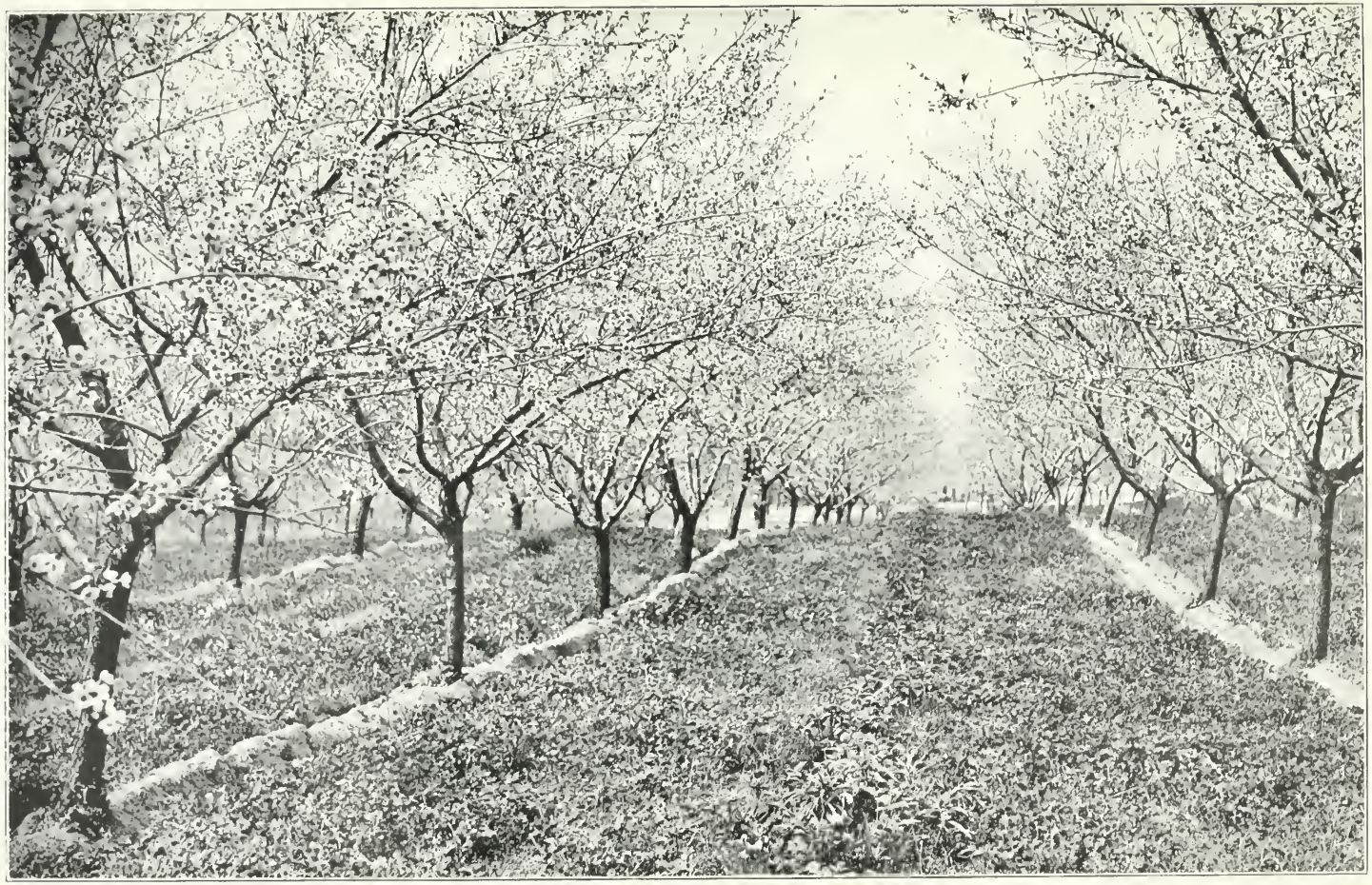
The effect is particularly noticeable in the trade with the western provinces. The demand from there has been hitherto for a No. 1 grade. This, however, could not be supplied, as shippers absolutely refused to send No. 1's without a certain proportion of No. 2's, but with the reputation which the No. 2's had in the past, the No. 2's could not be used to advantage where the cost of transportation was as great as it is in the western provinces. During the past season the merchants of the Northwest have been fairly well satisfied with the No. 2 grade, and it is safe to say that in the future there will be a large and satisfactory trade in the grade.

In the practical working out of the No. 2 grade a condition has arisen which was not clearly foreseen by those who framed the definition. It is stipulated in the definition that not less than 80 per cent shall be free from worm holes and other defects that cause material waste, the presumption being that this 80 per cent, though free from worm holes and such defects, will nevertheless be slightly imperfect fruit, otherwise it would qualify for No. 1 except perhaps upon the score of size. It was anticipated that the phrase 'causing material waste' would be differently interpreted by different

A Nova Scotian Orchard.

A British Columbia Fruit Ranch.

An Ontario Fruit District.



A Canadian Peach Orchard

packers. Such, however, is not the case to any great extent. The weakest part of the definition is in the allowance of 20 per cent of fruit in a No. 2 package that may be culls. There is no definition of this 20 per cent except that the specimens shall be nearly medium in size for the variety. As a consequence this 20 per cent is often composed largely of culls that should never go into any package. No reputable packer, of course, puts culls into a No. 2 barrel intentionally, but his less scrupulous neighbour may do so, with the consequence that the grade is usually discounted 20 per cent by dealers, which is a manifest injustice to those who put nothing but useful fruit in No. 2 grade. It would be a very marked improvement in the definition if the intention of the framers of it could have been carried out. This undoubtedly was to have the specimens of the 20 per cent allowance good marketable fruit, though having slight defects causing material waste, but such as could not readily be detected in rapid work.

In order to maintain to the highest degree the usefulness of the No. 2 grade, the inspectors have been instructed to insist very rigidly upon the point of size in the 20 per cent of apples which may contain worm holes and other defects in the No. 2 grade.

NO. 3 GRADE.

The No. 3 grade not being defined, very naturally varies in quality. It is possible to make a grade lower than No. 2 of use for the low priced trade in large towns and cities. Speaking generally, it will not pay to incur all the expenses of careful packing, barrels, freight, commission, &c., for the long distance market. Notwithstanding this, a large quantity of grade No. 3 has been shipped from Nova Scotia, certainly to the detriment of the reputation of Nova Scotia fruit and probably with an actual loss to the shippers. So long as there are poor facilities or none for using No. 3 fruit in some by-product, such as evaporated stock, cider or apple butter, the temptation will be almost irresistible to ship this grade. Evaporators and canning factories can afford to pay more for No. 3 grade than the net returns from the long distance market amount to.

IMMATURE FRUIT.

The shipping of immature fruit is an evil more or less prevalent at the beginning of every season. Where this immature fruit is graded No. 1, it becomes a violation of the Fruit Marks Act. Scarcely less injurious to the trade, but not punishable by law, is the practice of shipping varieties out of season. Not unfrequently we find Baldwins and Spies going on the market for consumption in October and the early part of November. The Ben Davis is frequently sold to unsuspecting victims three months before it is fit for use. It is only fair to say that reputable dealers having storage hold such fruit till it becomes ripe.

THE INSPECTION AND SALE ACT.*

The enforcement of the sections of the Inspection and Sale Act referring to fruit packages has been in every respect successful. It is safe to say that no large quantities of packages were manufactured in eastern Canada contrary to the provisions of this Act. The only exceptions to perfect uniformity were a few packages of the previous year's stock and a few baskets imported from the United States on account of the shortage in Canadian stock. Slight differences between a few of the packages used formerly in British Columbia will be corrected this year. The manufacturers of fruit packages have joined heartily in the movement for uniformity in size. With their co-operation it will be a comparatively easy matter to secure strict compliance with the law.

* In the Revised Statutes of Canada, 1906, 'The Fruit Marks Act,' 1901, is codified with 'The Inspection and Sale Act,' and forms Part IX .of that Act.

AMENDMENTS IN 1907.

At the present session of parliament in amendment to the Inspection and Sale Act has been introduced defining the dimensions of the six and eleven quart baskets. The amendment also provides for making the six quart basket a standard size, instead of the six and two-thirds quarts.

The sections (325-326) of the Act as now in force, affecting fruit packages, read as follows :—

'All apples packed in Canada for export for sale by the barrel in closed barrels shall be packed in good and strong barrels of seasoned wood having dimensions not less than the folowing, namely:—twenty-six inches and one-fourth between the heads, inside measure, and a head diameter of seventeen inches, and a middle diameter of eighteen inches and one-half representing as nearly as possible ninety-six quarts.

'2. When apples, pears or quinces are sold by the barrel, as a measure of capacity, such barrel shall not be of lesser dimensions than those specified in this section.

'3. When apples are packed in Canada for export for sale by the box, they shall be packed in good and strong boxes of seasoned wood, the inside dimensions of which shal not be less than ten inches in depth, eleven inches in width and twenty inches in length, representing as nearly as possible two thousand two hundred cubic inches.

'4. When apples are packed in boxes or barrels having trays or fillers wherein it is intended to have a separate compartment for each apple, the provisions of this section as to boxes and barrels shall not apply. 1 E. VII., c. 26, s. 4; 4-5 E. VII., 44, ss. 1 and 2.

'Every box of berries or currants offered for sale in Canada shall be plainly marked on the side of the box, in black letters at least half an inch square, with the word 'Short,' unless it contains when level-full as nearly exactly as practicable,—

'(*a*) At least four-fifths of a quart: or,

'(*b*) Eleven quarts, and be five and three-fourths inches deep perpendicularly, eighteen and three-fourths inches in length and eight inches in width at the top of the basket, sixteen and three-fourths inches in length and six and seven-eighths inches in width at the bottom of the basket, as nearly exactly as practicable, all measurements to be inside of the veneer proper and not to include the top band.

'(*c*) Six quarts, and be four and one-half inches deep perpendicularly, fiffteen and three-eighths inches in length and seven inches in width at the top of the basket, thirteen and one-half inches in length and five and seven-eighths inches in width at the bottom of the basket, as nearly exactly as practicable, all measurements to be inside of the veneer proper and not to include the top band: Provided that the Governor in Council may by proclamation exempt any province from the operation of this section.

'(*d*) Two and two-fifths quarts, as nearly exactly as practicable. 1 E. VII., c. 26, s. 5.'

FRUIT CROP REPORTS.

The fruit crop reports published monthly during the fruit growing season were continued this year. This feature of the work of the Fruit Division has received the commendation of the fruitgrowers generally and of the various provincial fruit associations. They were issued the last of each month and distributed immediately to all the newspapers and to the public generally. They are, of course, sent regularly to any fruit grower who makes application for them.

FRUIT CROP OF 1906.

The season opened with excellent prospects. The winter injuries were few. The bloom on all kinds of fruit trees was particularly abundant. In small fruits, however,

particularly strawberries, the winter killing was a noticeable feature. The small snow fall in the northern and eastern portions of the fruit growing belt caused very serious losses in the small fruits, but the increased acreage made up to a certain extent for the winter losses, and the prices, though good, were not phenominally high. There were also serious spring frosts reported from Prince Edward Island and from British Columbia.

During June and July the weather conditions were not altogether favourable. The temperature was low in June, and there were some severe storms, one developing to the extent of a tornado, injuring the orchards very greatly in western Ontario. The latter part of July, August and the fall months were warmer than usual. There was a somewhat serious storm in the early part of October, accompanied by a fall of snow extending through the Niagara district and Western Ontario. The most serious damage was the breaking of the limbs from the combined weight of fruit and snow. The keeping qualities of the fruit were probably injured somewhat also, though this was scarcely apparent at the time of picking. About the same time the apple district of Nova Scotia suffered from the effects of a terrific wind storm. It is estimated that at least thirty thousand barrels of apples were blown off, half of which afterwards found their way to the foreign market. This will account in part for the large quantity of No. 3 fruit shipped from Nova Scotia. There was also a very light rain fall which materially affected the size of the fruit. Peaches and apples were all smaller than usual. The effect of this was specially noticeable in Nova Scotia. The buyers of export fruit are reporting that of the fruit that was stored for winter shipment, the proportion of small fruit is greater than usual, and in no part of Canada did the winter fruit keep as well as during the previous two or three years.

Summer and fall apples were a medium crop on the whole. The winter apples, or rather such as were considered good storing stock, were decidedly a light crop. This was particularly true of district No. 3 where some of the largest commercial orchards of winter fruit are located. A much larger proportion than usual of fruit from the warmer districts of Ontario was stored and this, no doubt, accounts in part for the heavy percentage of losses in the storehouses for this season.

Pears were a light crop and scarcely sufficient to supply the local markets, so that very few were exported, although there was a demand both in Great Britain and from South Africa. Peaches were above a medium crop and very nearly supplied the local demand. The planting of peaches appears to be on the increase. Plums were a particularly light crop last year, almost a failure. Grapes maintained their reputation for regular and steady bearing. They were a good crop and realized excellent prices. The fungous diseases were less harmful than usual. The tomato crop is assuming greater proportions every year in the fruit growing sections. This year the acreage was larger than usual, but the dry and hot weather reduced the crop per acre somewhat. The weather also had the effect of prematurely ripening the fruit so that it could not be properly handled by the canning companies and many thousands of bushels were lost in this way.

INSECTS.

Insects were more numerous than usual. The Codling Moth was particularly prevalent. The proportion of wormy fruit offered for sale was very large. This defect in the Canadian apples is seriously interfering with the trade, especially in South Africa and Australia, where there is an opening for a very profitable business. The Oyster Shell Bark Louse became in some sections a veritable scourge, particularly along the north shore of Lake Ontario. The Tent Caterpillar and Canker Worm seriously infested Nova Scotia orchards. Injuries caused by the Green Fruit Worm were noticeable on many specimens of fruit that otherwise would have been No. 1. The Rose Bug is becoming more widely distributed and presents a decided difficulty to the fruit growers, especially in grape growing districts. The White Spotted

Tussock Moth was reported as having caused very great damage in Nova Scotia, marring the fruit as well as eating the leaves. The San Jose Scale is slowly but surely extending in area in southern and western Ontario, and will undoubtedly destroy many of the older apple orchards, especially in the counties of Essex, Kent and Lincoln. The Pear Leaf Blister Mite was also very prevalent last year.

FUNGOUS DISEASES.

The apple scab continues to be the most harmful of all the fungous diseases. Twig blight was never more prevalent than during this year. The same may be said of pear blight. This disease probably accounts for the hesitancy which fruit growers have in making large plantations of pears. In the fruit districts the Clapp Favourite pear has almost disappeared.

The Sooty Fungus, or Ink Spot, is another disease which appears periodically upon the fruit in Ontario orchards. For several years Ontario fruit has been practically free from this mould-like fungus; nevertheless it appeared again stronger than ever during the past season. Owing to the fact that this fungus will develop similarly to our common moulds in a close damp environment, such as the apple barrel affords, thousands of barrels in which the disease could hardly be detected when they were shipped or put into store, were rendered almost unfit for sale when opened up upon the market or repacked later in the storehouses for shipment.

Apple canker has become a serious menace in the old apple orchards of Nova Scotia. It is becoming much more prevalent in Ontario, especially in those sections subject to sun scald and winter injuries.

EXTENSIVE TECHNICAL KNOWLEDGE NOT ESSENTIAL.

There is an opinion among orchardists generally that in order to control the large number of insect and fungous pests which attack their orchards, it is necessary to acquire an extensive knowledge of fungi and insects. Naturally the grower shrinks from the enormous task before him. He has neither the time nor the inclination, perhaps, to devote to such an exhaustive study, and therefore often gives up in despair.

This is a grave mistake on the part of the grower. It is not necessary that he be able to identify every insect that he sees, or should know at sight every disease that develops among his trees, in order to control them. If he would become sufficiently familiar with the two most injurious orchard pests (the Codling Moth and the Apple Scab) to know when and with what to spray to control these, he would incidently check or destroy nearly all others. That is to say, if he learns how to make and apply the poisoned Bordeaux mixture, three, or better, four times during the growing season, he can count on eighty to ninety per cent of clean fruit and a healthy orchard. But even in these cases the orchard sprayed four times with poisoned Bordeaux mixture would be comparatively free from injury, even though other measures were advisable in the case of a severe infestation of Tent Caterpillar, Oyster Shell Bark Scale or Sooty Fungus. The poisoned Bordeaux mixture, therefore, is the orchardist's mainstay, without which fruit growers' success is always doubtful. Cover the entire surface of bark and leaf with the finest possible spray of poisoned Bordeaux mixture once before the blossoms are open, the second time after the blossoms have fallen and before the little apples have turned down, once again ten days or two weeks later, and the fourth time ten days or two weeks after this. This arrangement is so simple that any orchardist may follow it, and doing so, can be reasonably sure of clean fruit and healthy trees.

It is true that occasionally there are outbreaks of fungous diseases and insect pests requiring other treatment than is here indicated, but the ravages of most of them are confined to comparatively small areas and for limited periods of time. For

example, the Tent Caterpillar, which created such havoc a few years ago in eastern Ontario, is now doing very little damage in that section. In Nova Scotia, this season, it was the worst pest the growers had to deal with. On the other hand, the Oyster Shell Scale or Bark Louse, which has been this year so prevalent in orchards in the Lake Ontario and Georgian Bay section, has been in former years seriously harmful only in neglected orchards.

In cases of such special prevalence of insects and fungi, it is strongly recommended that specimens and all additional information be sent to the experts employed by the Dominion or provincial governments.

ACKNOWLEDGMENTS.

In this work I beg to acknowledge the help received from Dr. James Fletcher, Dominion Entomologist, and W. T. Macoun, Horticulturist, Central Experimental Farm, Ottawa, in identifying specimens and suggesting remedies.

THE APPLE INDUSTRY OF CANADA.

In recognition of the importance of the apple industry in Canada, it was deemed expedient to make some specific enquiries with reference to some phases of it, of which there is a lack of definite and recent information. To this end the following schedule was prepared and sent to the fruit crop correspondents, numbering about five thousand, distributed over the whole Dominion in proportion to the importance of the industry in each district:—

SPECIAL APPLE REPORT—GROWERS' SCHEDULE.

Fruit Division. DEPARTMENT OF AGRICULTURE,
DAIRY COMMISSIONER'S BRANCH,
OTTAWA, November 2, 1906.

Kindly fill out this schedule as fully as possible. It is hoped that all who receive this will fill out such portions of it as they can, and forward it to this office without delay. The answers will be used in compiling statistics of the fruit industry, and no individual names will be used. Do not fail to give *Post Office* and *County*.

1. Name. . . . .
P. O. . . . .
County. . . . . Province. . . . .
2. No. of trees in orchard. . . . . acres. . . . .
3. What is your practice with reference to:—
(*a*) Drainage. . . . .
(*b*) Fertilizers. . . . .
(*c*) Pruning. . . . .
(*d*) Spraying. . . . .
(*e*) Cover crop. . . . .
(*f*) Orchard in sod. . . . . Hoe crop. . . . . Grain. . . . .
Clean culture. . . . . Hog or sheep pasture. . . . .

	1904.	1905.	1906.
4. Yield per tree.	. . . .	. . . .	. . . .
Price per barrel	. . . .	. . . .	. . . .
Gross income.	. . . .	. . . .	. . . .

5. What varieties do you grow? . . . .

6. What six varieties of apples would you select if you were setting out a new commercial orchard on your farm?. . . . . .

. . . . . .

. . . . . .

7. Did you sell your orchard:—

(*a*) by the lump?. . . . . .

(*b*) by the barrel on the trees?. . . . . .

(*c*) by the barrel picked?. . . . . .

(*d*) by the barrel picked and packed?. . . . . .

8. Give the names and addresses of apple buyers operating in your neighbourhood

. . . . . .

. . . . . .

9. Do you know of any cases of buyers not living up to their agreements. . . . .

10. Give the names and addresses of any individual or firms operating evaporators in your neighbourhood. . . . . .

. . . . . .

11. Give the names of cider manufacturers in your neighbourhood. . . . . .

. . . . . .

12. Were any large quantities of apples allowed to go to waste ? If so, what was the cause?. . . . . .

13. Do you know of any farmers who are holding fruit for winter sale?. . . . .

14. What insects were prevalent in your district this year?. . . . . .

15. Was scab more or less prevalent than last year? . . . . . .

16. What other diseases affected your trees?. . . . . .

. . . . . .

17. Other particulars of interest. . . . . .

. . . . . .

The answers which were returned have enabled us to make a fair analysis of the conditions under which apples are grown in Canada. It is needless to say that there is a very great variation in the opinions expressed as to each phase of orchard practice, but there is a certain uniformity in the different fruit districts. The best analysis of the situation can be made by retaining the geographical subdivisions made of the Dominion for the purpose of the fruit crop reports, which are given below. (See maps of fruit districts.)

District No. 1.—Counties bordering on Lake Erie, Ont.

District No. 2.—Counties on Lake Huron and inland to York county, Ont.

District No. 3.—Counties bordering on Lake Ontario north to Sharbot Lake and Georgian Bay, Ont.

District No. 4.—Ottawa and St. Lawrence valleys to Lake St. Peter and southwestern Quebec.

District No. 5.—New Brunswick with northeastern Quebec.

District No. 6.—Hants, Kings, Annapolis and Digby counties, Nova Scotia.

District No. 7.—Nova Scotia not included in district 6.

District No. 8.—Prince Edward Island.

District No. 9.—Lower mainland and islands, British Columbia.

District No. 10.—Inland valleys, British Columbia.

SIZE OF ORCHARDS.

Question No. 2 developed very clearly the fact that apple orcharding in Canada is yet in the stage when it is an appendage to mixed farming. There are compara-

tively few large orchards, and there are many districts where a small orchard is included in every farm. In district No. 1 there were many orchards of five acres, a few were reported as large as 30 acres, and one of 45 acres.

District No. 2 has a larger proportion of small orchards, the average appearing to be between two and three acres, with a few large orchards, principally in the counties of Middlesex and Huron.

District No. 3 has a larger proportion of large orchards, and is the only district in Ontario where it can be said that apple orcharding is taken up as a specialty.

In district 4 the large orchards are confined to the Island of Montreal and a few in the Eastern Townships.

District 5 can scarcely be said to grow apples otherwise than a few for home use.

District 6, including as it does the Annapolis valley of Nova Scotia, is distinctly an apple growing section. Orcharding constitutes the chief business of the land owners; nevertheless there are a few very excellent stock farms, but in almost every case with an orchard as an important side line.

District 7, Nova Scotia, except the Annapolis valley, has a few promising apple sections, particularly in Lunenburg, Queens and Pictou counties. There are other sheltered valleys where in the future it is quite possible apple growing may become a specialty, but with these exceptions it is a district of small orchards, producing few winter apples and scarcely enough of the fall varieties for home consumption. The Provincial Government's system of demonstration orchards will undoubtedly encourage apple growing in all the more favoured parts of the province.

District 8, Prince Edward Island, is another district of small orchards.

Small orchards are also the rule in district 9.

District 10, interior of British Columbia, has many peculiar features which render an analysis of the size of the orchards somewhat difficult. In many cases, orcharding offered such inducements to capital that large companies and wealthy men were induced to plant extensively as in the case of the celebrated Coldstream Ranch in the Okanagan valley. The fact that many of these inland valleys require irrigation has a tendency to limit the orchard planting to men with large capital. On the other hand, the spirit of co-operation in irrigation has been developed whereby it is possible to secure irrigation for small plots, and in numerous cases men with comparatively small plots have invested in a part of large estates which are being broken up and are planting orchards from five to ten acres in extent. Where this is the practice there are comparatively few orchards larger than twenty acres.

LARGE OR SMALL ORCHARDS.

The question of orcharding as a specialty, or as one branch of mixed farming, is being discussed in all apple growing sections. In districts No. 3 and 6, the apple specialist is already in evidence, but the small orchard prevails everywhere else. If we consider merely the question of production, the question must be decided in favour of the large orchard. When the investment becomes a matter of serious concern, the grower is more likely to interest himself in every detail of orchard work. Cultivation, spraying and pruning will be done on time and properly. They will be considered part of the regular work and not something that can be done when no other work is pressing. The specialist provides himself with books, periodicals and proper implements. He is willing to spend money and time to attend fruit meetings. Because of the large quantity of fruit he controls, he receives consideration from buyers and transportation companies.

But there are some disadvantages. The large grower must hire large numbers of men for short periods of time. Thus he pays high wages for indifferent services. In mixed farming the ordinary help on the farm is used. The specialist finds fertilizers a costly and not altogether satisfactory article. On a farm where stock is kept

the fertilizer question is a simple one. The specialist has to wait long years before his investment earns him a dividend, and every operation must be paid for at top prices, because labour and material are hired and bought for a special occasion. The mixed farmer can do most of the work of developing an orchard with the odds and ends of time that cost him little. It is almost certain therefore that the specialist will be the better fruit grower, but quite probable that the general farmer will grow a barrel of apples at a lower cost per barrel. If the apple specialist makes more money than the general farmer in the aggregate, it is because apple growing is more profitable than the usual branches of mixed farming.

There is another compensation when apple growing is included in mixed farming, that is not the less real because it is somewhat intangible. This is the mental and physical development that comes from a varied occupation. The man who grows any one product exclusively will not get so much for himself out of life, nor give his children such good opportunities as the man who grows several products. And so the position appears to be that special apple growing will give the country the best fruit, mixed farming the best men.

In the size of orchards as in all other things, there is a happy medium. Five acres is the smallest that can be recommended for commercial purposes, but ten acres on the average hundred acre farm would not place the owner in the specialist class.

ORCHARD MANAGEMENT—DRAINAGE.

The third question deals particularly with the details of orchard practice. Very few of the orchards are tile drained. Seventy-five per cent of the returns show that natural drainage is deemed sufficient. No doubt many of these orchards have open drains in the depressions, though no systematic attempt is made to provide for anything more than the disposal of the surface water. The value of tile drains in an orchard is shown by the following typical extract from a correspondent in New Brunswick, who says:—'A few years ago I put out an orchard of 2 acres, 80 trees. On account of it being wet I lost nearly every tree. I then under-drained the orchard and reset it, and the trees have done well. They are just coming into bearing.' It is notable that in only two sections is there any large proportion of tile draining being done in the orchards. That is in district 2, where the farmers are noted for the excellence of their general farm practice, and undoubtedly the tile draining has been extended to the orchard as a matter of uniformity to correspond with the rest of the farm. District 3, where orcharding is more of a specialty, is the only other district with any considerable number of tile drained orchards. The peculiar soil formation of the Annapolis valley is a perfectly legitimate excuse for less tile draining being done there than the general excellence of their orchard practice would lead one to expect. It is surprising too, to find that in the irrigated districts comparatively few of the orchards are tile drained, and it is possible that some of the defects that are beginning to be noticeable in irrigated orchards may be traced to this want of tile drainage.

APPLE TREE ROOTS AND TILE DRAINS.

Many correspondents object to tile draining because they suppose that the roots of the trees will enter the tile and choke them. A special enquiry was made with reference to this and it has, I think, been clearly demonstrated that there is not the slightest danger, under ordinary circumstances, of the roots filling the tile. In all the good orchard sections, the rainfall is such that during the greater portion of the season, say from the middle of June until growth ceases in the fall, no water runs through the tiles. This being the case, any roots that may enter the tile earlier than the month of June dry up and decay, and there is no new growth while the tiles are without

water. In those exceptional orchards, located on slopes or on land abounding in perennial springs, there is a danger of the trees filling the tile. Yet even in that case the process with apple trees is a comparatively slow one. Nevertheless it is a consideration that must be taken into account in tile draining orchards. The conclusion then is that there is no danger of roots filling a tile where, under normal circumstances, the tile does not carry water during the summer months, and that there is a danger of the tile being filled where the tile carries water at all seasons of the year.

FEEDING THE ORCHARD.

A great variety of practice is shown in the matter of fertilizers. Barn-yard manure is the staple in nearly all the orchards of Canada. The experience and conclusions of Canadian orchardists are expressed in the following note: 'We have tried various kinds of fertilizers, but find best results from barn-yard manure.'—Burlington, Ont.

The two districts that use any large quantities of commercial fertilizers are the western counties of Ontario, district 2, and the Annapolis valley, where orcharding is so much of a specialty that stock raising is out of the question. Partly for this reason and partly on account of the nature of the soil, commercial fertilizers have given excellent results. About 50 per cent of the orchards depend almost solely upon commercial fertilizers and cover crops.

PRUNING.

The enquiry with reference to pruning shows very great unanimity as to the necessity of pruning. There is also great unanimity as to the time when this pruning is done, namely in spring. Fully 80 per cent of all the pruning is done at this season of the year. In many cases the reasons given for spring pruning are not that the orchardists consider it the best time for the tree, but that it is the only time when the work can be done conveniently. If it is not done then it is not likely to be done at all.

SPRAYING.

Spraying is a very much neglected orchard operation, but the signs are hopeful. In very many cases, even where the orchardists have not sprayed, they recognize the benefits of it. It is fair to say that spraying is now almost universally recognized as one of the essentials of good orcharding. The Bordeaux mixture is the staple spraying mixture, though there are a surprisingly large number who spray with Paris Green alone. The lime-sulphur wash is used only in districts 1, 2, 9 and 10. Though the San José Scale is responsible for the introduction of this spraying mixture, its use has extended beyond the orchards that are suffering from this very grave pest. Lime and sulphur is proving a most efficient fungicide as well as insecticide, and from the fact that it can be applied at a season of the year when there is comparatively little other work to be done on the farm, its use is more common than it otherwise would be.

As the fruit areas extend and as time advances, insect pests and fungous diseases increase. This by no means implies that the task of growing clean fruit is a hopeless one, but it does imply that much more attention must be given to combating these foes now than formerly. In fact spraying is now recognized as being an essential feature of orcharding, perhaps the most important of all orchard operations. Without it, it is impossible to grow No. 1 fruit or have healthy trees. It would be a mistake, however, to attempt to belittle the labour and cost of the operation of spraying. The work comes at a very busy time of the year and must be done thoroughly and promptly. Spraying will cost very nearly as much as all the other cultural opera-

tions in the orchard when it is properly done. But the results justify this heavy expense. If we calculate the cost of the operation per acre, it amounts from $8 to $10 per acre, or if we count per tree, it will be from 16 to 20 cents per tree. A more encouraging way is to calculate per barrel of fruit which will amount to from 10 to 12 cents per barrel. This heavy cost cannot be avoided, but no operation in the orchard pays better.

NUMBER OF SPRAYINGS.

With reference to the number of sprayings, it is noticeable that a very large proportion of the growers spray only once or twice, very few four or more times. It cannot be too strongly impressed upon orchardists that at least three sprayings with the poisoned Bordeaux mixture are necessary for economical results in apple growing, and that four sprayings in nearly every case. There are exceptional circumstances where it is necessary to spray five times in order to get the best results. In the case of the sooty fungus, a pest that has developed abnormally this last year in western Ontario, it is necessary to spray much later than would be necessary ordinarily for the apple scab. The following extracts illustrate prevalent sentiments on the subject:—

'Fruit growers are now willing to admit the necessity of spraying thoroughly.'—Cambridge, N.S.

'In regard to spraying, it is a case of do it or get out of the business.'—Bloomfield, Ont.

'I must say there is no good in having an orchard in this part unless it is sprayed most thoroughly.'—Ingersoll, Ont.

'I lost this year's crop of Gravensteins by not spraying. They set full and hung on for about three weeks, when in about two days they all dropped off. Those who sprayed had a fair crop.'

'I have sprayed thoroughly for several years with excellent results in regard to spot. Our apples the last two years have been practically clean. My Gravensteins are said to be the best grown in Annapolis valley this year.'—Berwick, N.S.

'This district being more suitable for mixed farming, the apple trees that are planted here are mostly neglected as regards spraying and pruning, and a law should compel spraying; done as it is at present, it is an injustice to the people that do spray. Next to me is a neighbour's old orchard with every tree alive with bark lice.'—Hall's Prairie, B.C.

'I have been packing apples around here, and can see a great difference between the sprayed and unsprayed.'—Goderich, Ont.

Bandaging the trees as a remedy for the Codling Moth is only rarely practised, though some report good results by simply placing rags in the crotches of the trees and killing the larvæ so trapped.

COVER CROPS.

The value of cover crops is generally recognized, particularly in districts 2, 3 and 6. The British Columbia orchardists are also alive to the question of cover crops. Clover is the most popular; buckwheat ranks second, followed by rye, vetch, oats, peas, barley and rape. It is noticeable, though, that the larger proportion of orchards are still left in sod. Of those reported not in sod, fully one-half are kept in clean culture; a very large proportion of the remaining orchards are occupied with hoe crops. Sheep are pastured apparently quite frequently in orchards. Hogs are almost universally confined in orchards for at least a part of the season. In western Ontario and British Columbia many orchards are reported as being used as poultry yards.

A general survey of the orchard practice would indicate that there is need yet for much education along all lines. The want of special orchard tools is evident.

YIELD PER TREE.

The yield per tree, as indicated by the returns, is exceedingly variable, the returns showing from one-third of a barrel to five barrels per tree. The largest yields per tree come from Western Ontario. In districts 1, 2, 3 and 6 the average for the last three years would be about two barrels per tree. In districts 4 and 5 the average was about 1 to 1½ barrels per tree.

PRICES.

It is rather difficult to secure any general results in the matter of price. The price in various sections varied greatly during the same year. Even the price to different individuals in the same locality varied too much to make it a mere matter of chance. It is somewhat difficult to determine whether the difference in price in the same locality is the result of a difference in the quality of the apples or a difference in the relative shrewdness of the buyer and seller. From a comparison of the returns of individuals it would appear that both elements have an influence. It is distinctly noticeable that in unsprayed, uncultivated and uncared for orchards there is a lower yield per tree and a smaller gross income; the well cared for orchards frequently yield very large returns. Nevertheless, many facts appear in the examination of these reports which go to show that apple growers are not well informed upon market conditions, and that in those sections of the country where buyers are depended upon for the disposal of the crop the fruit growers allow themselves to be imposed upon by not being informed thoroughly of the market conditions ruling at the time of the sale. These returns, taken in connection with the fruit crop reports of the season, contain numerous records of sales early in the season, made before the exigencies of market and weather could be accurately determined. In nearly all such cases the farmer has been the loser. This is to be expected from the fact that the dealer has larger opportunities and stronger incentives to make himself familiar with market conditions, and has probably more experience in determining the quantity and value of the product of the orchard. It can be taken as a principle in the selling of apples that the farmer is at a disadvantage in selling early in the season before the conditions and quantity of the fruit, as well as the price, can be somewhat accurately determined.

GROSS RECEIPTS PER ACRE.

Two-thirds of those who made reports gave $60 to $100 as the gross receipts per acre from their orchards. Very few gave less than $40. Somewhat over 50 per cent of the remainder gave between $100 and $200 per acre. Some, under exceptional circumstances, gave as high as $800 per acre. It must be noted here that these returns were made for the most part by the better class of apple growers, but not specialists in apples. They are in general well informed farmers, engaged in mixed farming, with apple growing as a more or less important feature. Under such circumstances it is safe to say that the gross income will average $80 per acre.

It is interesting to note that even in neglected orchards the revenue is as large if not larger than from any other part of the farm, where the calculation is based upon the amount of money expended on capital and for current expenses. In the case of well cared for orchards, it is safe to say that there is no branch of mixed farming that yields anything like as large a revenue as orcharding. These returns, showing gross receipts of $80 and over per acre, were not confined to what is usually considered the most favoured fruit districts. Two orchards in the St. John valley, New Brunswick, with no exceptional advantages, report a gross income of about $100 per acre. A 4-acre orchard on the banks of the St. Lawrence, below Prescott, with a

climate too severe for the Baldwin, Spy or Greening, shows a gross income of over $200 per acre. It is safe to say that in few instances has the expenditure for current expenses amounted to more than $30 per acre.

VALUE OF ORCHARDS.

Some facts with reference to the value set upon orchards appeared in the reports. In districts 3, 6, 9 and 10 the minimum value per acre for an orchard in full bearing is $400, and a value is given as high as $1,000 per acre for some apple orchards, though no sales at that price have been reported. Unfortunately this schedule did not ask for an estimate of the cost of establishing an orchard, though some information was given on that subject. From these returns and from other sources it can be confidently stated that the ultimate cost at the time of full bearing of an acre of apple orchard does not exceed $200, including the price of land, cost of trees, interest on investment, as well as current expenses till the trees return a revenue.

NEGLECTED ORCHARDS.

On the other hand, it must be noted that the returns show there are many orchards that do not yield any considerable revenue, and some that probably do not pay expenses, but in these cases there are exceptional circumstances, such as the planting of useless varieties, want of organization for selling purposes, or negligence in culture.

METHOD OF SELLING.

Different customs prevail in different parts of the country in the matter of selling the apple crop. In district 1 a very large proportion of the orchards were sold by the 'lump.' Nearly all the remainder that were barrelled were sold by the barrel picked, the packing being done by the buyer. A very small proportion were sold by the barrel, picked and packed, and by the barrel on the trees, the buyer doing the picking. It is noticeable that in districts 1 and 2 there was a large number of orchards where the whole product went to evaporators or canning factories. In district 2 about an equal quantity is sold by the barrel picked, and by the barrel picked and packed by the farmer. In district 4 a very large proportion of the orchards are reported as having been sold by the barrel, picked and packed, though there was a large number of orchards sold in this district by the lump. In district 4 it is the almost universal rule for the grower to pick and pack the apples, or pick them at least. In district 6, the proportion of barrels packed by the growers themselves is very large, amounting probably to 75 per cent of the total product on the reports submitted. In British Columbia it is the almost universal practice for each grower to pick and pack his own fruit in boxes, where the packing is not done by a co-operative association.

EVILS OF LUMP BUYING.

Nearly all the correspondents agree that at least 25 per cent of the apple crop in Ontario is bought by the lump. A very large proportion of the buyers place the amount as high as 50 per cent. The remainder is then bought by the barrel, sometimes the picking and packing being done by the grower, and the packing in nearly all cases being done by the buyer. This exposes one of the greatest evils of the present system of handling the apple crop. Buying 'by the lump' is rarely, if ever, profitable to the grower. The average grower cannot gain as complete a knowledge of competing crops and probable market conditions as the buyer. Neither is the grower so skilled in the art of estimating a crop. The buyer's experience usually extends over many years and in

a great variety of orchards. The grower, therefore, whose experience is confined to his own, perhaps, small orchard is no match for the buyer. The usual result is that the farmer parts with his apples for a sum much less than they are actually worth. The evil does not cease here. The grower, having disposed of his crop, has to a certain extent lost interest in it, and if we will believe the stories of the buyers, the loss from neglect to properly protect the fruit between the time of sale and the time of packing is in itself the loss of a large per cent of the crop. This feature of the case, no doubt, is a very serious one.

UTILIZATION OF WASTE PRODUCTS.

An additional consideration is the ability to use the waste products. In a few cases where the buyer has bought the whole orchard, he may be able to utilize the lower grades of fruit to better advantage than the grower could for this particular deal, but if the custom were universal for the grower to retain control of the lower grades of his own fruit, there would be greater encouragement for canning factories and evaporators and for the manufacture of cider and other apple products. There are many points in the apple districts where it would pay well to establish an evaporator if the owner of the evaporator were sure of the waste products each year, but where there is such uncertainty as to how the lower grades will be disposed of, whether by the farmer or by the buyer of the higher grade of apples, no manager of an evaporator would invest capital. When the grower sells by the barrel the local evaporator would be reasonably sure of the lower grades of apples, but he may sell the next year by the lump, in which case the local evaporator probably would not get the waste.

Another feature of the case, worthy of consideration, is the tendency of buyers to pack fraudulently. In their effort to get as much as possible out of the orchard they lower the grade of both No. 1 and No. 2, endeavouring if possible not to have any No. 3 grade. Many of the prosecutions under the Fruit Marks Act can be traced to the 'lump' orchards.

PICKING AND PACKING BY THE BUYER.

Foremen employed by apple operators are usually paid $2.50 per day; the rest of the gang are paid from $1.50 to $2 and expenses. Farmers seldom pay even $1.50 for trained labour, and make no effort to secure help at anything higher than this, and yet they complain bitterly of the scarcity of help. Undoubtedly, if they would offer the wages given by the apple buyers, they would secure help quite as readily; and the farmers could use their help much more economically than the dealers. If the farmer counted the picking and packing of the apples as part of the regular routine of the farm, it could be made to supplement other farm work, so that it would cost for labour what farmers usually pay for permanent help. This in itself would be a fair profit, but the largest item of saving would not be the difference in the cost of labour, but would be in other items of expense. The dealer is obliged to pay not only for the transportation of his men from orchard to orchard at frequent intervals, but also for their time as they proceed from orchard to orchard. It is impossible for him to economically employ his men during wet days, yet under one form or another he is obliged to pay his men for such lost time. Nor can the apple buyer give that close supervision to the work of his men, that will ensure the time being well employed, that the farmer can who has the immediate oversight of his men. These considerations show how much cheaper it would be for the farmer to do his own picking and packing than to have it done by the apple dealer.

PICKING BY THE OWNER.

If the grower would do his own picking there would be less injury to his trees. This is an item that is not often taken into account by orchardists, notwithstanding its importance. Careless pickers, by breaking off the fruit spurs in the rough handling of ladders and by climbing among the limbs, frequently reduce very seriously the future bearing capacity of the tree.

Where the grower does his own packing the grading should be much better and should secure for the fruit a better price.

Again it is important that the picking and packing should be done at the proper time, thus materially reducing the waste as the result of picking fruit before it is in its prime or after it has reached maturity. The buyers in offering a price, either by the barrel or by the orchard, take this matter into consideration, so that the cost of these things, whether the grower appreciates it or not, falls immediately upon the orchard. It is fair to add here that dealers will not buy 'farmers' pack' readily. They complain that the different lots lack uniformity and that the pack is not always honest. There is some truth in this complaint, but the fruit inspectors' reports show that the farmers' pack have fewer violations of the Fruit Marks Act than the dealers' pack. Poor packing and want of uniformity in grading are the worst defects.

BOARDING THE PACKERS.

About 50 per cent of the farmers who sell their apples, board the men during the time they are picking and packing the fruit. This practice of boarding the men at the place where the picking is done, is a decided lessening of the expense to the apple buyer and does not in all cases mean a corresponding increase of expense to the farmer.

COST OF HARVESTING AND STORING.

Below is given a fair estimate of the cost of harvesting a barrel of winter apples by the usual methods:—

Expense for time, &c., in buying	10	cents per bbl
Cost of barrel	35	"
Picking	15	"
Packing	15	"
Hauling to station	5	"
Freight to storehouse	30	"
Ordinary storage	7	"
Shrinkage	20	"
Repacking in the warehouse	15	"
Office work, &c.	10	"

These calculations are made on the presumption that the apples are bought at first hand. Quite frequently the man who does the storing and shipping does not do the buying in the orchard, in which case additional charges must be added for profits to one, two or sometimes three additional middlemen. If the apples are exported to Great Britain, to this must be added freight, $1; selling charges, 35 cents; exchange, &c., 10 cents; which with the cost of the apples on the tree, say $1, bring the net cost of the barrel of apples in Great Britain to $4.07.

Of course by reducing one or other of the various items enumerated above, in some way dealers are frequently able to get apples to Great Britain at much less than this cost; yet it is safe to say that as ordinarily handled there are few No. 1 apples that reach Great Britain at less than this figure.

CO-OPERATION.

Of course, the ideal way for the apple growers of Canada to harvest and sell their apples is by the co-operative method. In this way one secures every advantage of selling individually along with all the advantages that come from handling in large quantities; that is to say, the co-operative method combines the best features of individual harvesting and selling, with the best features of selling to large dealers and with few or none of the disadvantages of either of these schemes. In addition, the co-operative method has a distinct educational value that has undoubtedly improved, to a very marked degree, the quality of the fruit grown by the members of the association. It is safe to say that this improvement would not have taken place had all the work been done by the individuals themselves or had the fruit been sold to the dealers in the ordinary way.

VARIETIES GROWN IN CANADIAN ORCHARDS.

As was to be expected, the list of varieties reported in answer to question 5 was a large one, yet notwithstanding this there is a fair degree of unanimity with reference to some 15 or 20 varieties, and a very large proportion of the correspondents unite in growing about one dozen varieties. This is a feature of exceptional value that has done much to increase the reputation of the Canadian product in the British markets. Nevertheless, there are yet too many varieties and many that might be discarded. The Baldwin is most largely planted, followed very closely by the Northern Spy and Greening, Fameuse (Snow), Russets, Ben Davis, Duchess, Wealthy, for Eastern Canada. In British Columbia the King, Spy and Spitzenberg are in the lead, although the Baldwin is still a favourite. It is noticeable that the Gravenstein is not largely planted except in Nova Scotia and British Columbia, the extreme east and west of Canada. During the last few years a great many Ben Davis apples have been planted in the principal apple growing sections of Canada, east and west. There are indications in the answers given to the next question that there is some hesitation on the part of orchardists in recommending it for further planting.

The following 25 varieties will include nine-tenths of all the apples grown in Canada. The number following each variety indicates its relative popularity with planters, taking the Dominion as a whole:—

Spy	202	Fameuse	28
Baldwin	192	Ribston	28
Greenings	140	Astrachan	27
Ben Davis	114	Mann	25
Kings	102	T. Sweet	22
Duchess	87	Blenheim	21
G. Russet	74	Nonpareil	18
Wealthy	73	McIntosh Red	17
Snows	61	Pewaukee	12
Gravenstein	50	Stark	11
Transparent	41	Belleflower	10
Alexander	31	Colvert	6

VARIETIES RECOMMENDED BY GROWERS.

Some very interesting inferences can be drawn from the answers to question 6. Correspondents are asked to name 6 varieties each would plant in a commercial orchard. Naturally these six varieties vary according to the district, but within districts there is a fair degree of unanimity.

In District 1, the following varieties in the order of their popularity were recommended:—Baldwin, Spy, King, R. I. Greening, Golden Russet, Ben Davis, followed by the Duchess, Fameuse (Snow), Wealthy and Blenheim.

For District 2:—Spy, Baldwin, King, R. I. Greening, Ben Davis, Golden Russet, followed by McIntosh Red, Wealthy, Duchess and Ontario.

For District 3:—Spy, Baldwin, Ben Davis, Stark, Golden Russet, R. I. Greening, followed by Wealthy, Fameuse (Snow), and Duchess.

For District 4:—McIntosh Red, Wealthy, Duchess, Alexander, Fameuse (Snow), Yellow Transparent.

For District 5:—Alexander, Fameuse, Wealthy, Duchess, Baldwin, McIntosh Red, followed by Russet, St. Lawrence, Yellow Transparent and Tetofsky.

For District 7:—Baldwin, Gravenstein, King, Nonpareil, Spy, Wealthy, followed by Stark, Ben Davis, Duchess.

For District 8:—Spy, Ben Davis, Alexander, Wealthy, Gravenstein, Stark, followed by Baxter, Duchess, Russet, Wolfe River and Transparent.

For District 9:—King, Spy, Gravenstein, Wealthy, Duchess, Baldwin, followed by Yellow Transparent, Ontario, Alexander, Golden Russet, Jonathan and Ben Davis.

For District 10:—Wealthy, Spy, Jonathan, McIntosh Red, King, Baldwin, followed by Gravenstein and Duchess.

THE SELECTION OF VARIETIES.

The question of varieties is a complicated one. We must take into consideration climate, soil, markets and even the idiosynerasies of the grower. A grower who intends to grow high class dessert apples for a personal market may wisely choose varieties for which his patrons are willing to pay a suitable price. It is quite probable that the varieties would not be at all suitable for the general trade. So, too, the local market can use a variety unsuited for general planting because it is too tender to ship, though such are sometimes very prolific and locally profitable. Climate must be taken into account, both for hardiness and time of ripening. Considerable latitude may be allowed in soil, but even here there is a choice of varieties. It may be said in a general way that the needs of the local and personal markets are best met by varieties numerous enough to cover the entire season, and so varied in quality as to suit the taste of individual customers. The export and long-distance trade is best served with the fewest possible varieties that will cover the season and meet the reasonable general demand for differences in use and in flavour.

TOPGRAFTING.

Canada has a great advantage in the export trade in growing largely only a few varieties; nevertheless there are still too many undesirable varieties in the average Canadian orchard. It is to be hoped that the subject of topgrafting will be taken up seriously so as to reduce these to the lowest possible limit. Varieties can be changed in about three years, and any tree that possesses a good trunk can with more or less care be made into a good topgrafted tree. It is better to change the variety by topgrafting even where the variety is not in itself objectionable on any score, except that there are but one or two of these trees in the orchard. It adds very much to the value of the orchard to have these odd varieties transformed to the standard varieties grown. The reputation of packers has been injured by the mixing of two varieties in a barrel. This, in many cases, has come about by picking an odd tree of another variety with the main crop, and thoughtlessly including it in the general shipment. Of course, no matter how desirable this variety may be when grown in large quantities, if there is but a single package, or a part of a package, it usually goes to waste.

On the other hand, we must not run to the extreme of putting all our eggs in one basket. Few varieties bear every year. The orchardist who has a number, even a

small number, of varieties, will have a better chance for a uniform crop than the man who devotes himself to a single variety or even to two varieties. It is conceded also that there should be for the purpose of pollinization at least three varieties intermixed in every plantation. In the distribution of the work, too, it will be found much better to employ fewer men for a longer time than to have a large number for a short time. This is a very important consideration when orcharding is a part of the general system of mixed farming.

POPULAR VARIETIES.

The Spy, Baldwin and King are easily the prime favourites at the present time with intending planters. The Spy, always popular for home consumption, has established its reputation in the British market, particularly in Liverpool and Glasgow. The King commands a higher price, but the taste for the Spy is growing, and it is not improbable that this difference in price will soon disappear. It must not be forgotten, however, that high flavour is only one element in determining the market value of a variety. The consumer is not the absolute dictator in determining the price to the grower. The fruit has to pass through the hands of four or five middlemen, who exercise the greatest influence on the price. The ordinary consumer, of course, wants good fruit, but does not always know it by name or when he sees it, and quite frequently is not willing to pay a price corresponding to its value. The shipper above all things wants a safe fruit, and is willing to pay for it, especially if it is attractive in appearance. Quality counts for little with the middlemen for the general market.

THE NORTHERN SPY.

It is, therefore, not surprising that the Spy has made its way more slowly than its merits either as a cooking or dessert apple would seem to warrant. It is popular with the growers, too, because it is prolific, almost equalling the Baldwin and Greening in this respect, when once the trees have reached maturity.

Its defects, however, are numerous. The shipper finds that it does not stand transportation well. It bruises easily and shows nearly always a large percentage of 'slacks' and 'wets,' and not infrequently the loss on these more than counterbalances the profits on the sound fruit. The shopkeeper finds that it will not 'stand up' long enough to enable him always to dispose of his whole stock. He buys in small lots to avoid waste, just as the shipper pays a comparatively low price to protect himself from probable shipping losses. Thus it is not a great favourite with the shipper and the merchant, because it is 'wasty,' but the grower has confidence in it because of its high quality, its productiveness and its value for the local market. The consumer always likes it when he can get it sound and well-grown.

It has another defect not always taken into account. It is a long time coming into bearing. The period varies with the soil and climate. A light soil, subject to a late summer drought, will bring it into full bearing six or eight years sooner than a deep rich clay loam, but of course these conditions would be relatively as effective for other varieties. We can, therefore, assume for eastern Canada that the Spy will be at least six years longer in coming into full bearing than the Ben Davis. In counting the cost of growing the Spy we must reduce the extra six or eight years' wait to the terms of dollars and cents. We must debit it with the cost of pruning, spraying and culture amounting to not less than $12 per year per acre. We must also debit it with the interest on investment and if we compare it with the Baldwin, or Ben Davis, we must also make allowance for probable profit on these before the Spy comes into bearing. Doing this, it will make the cost of growing Spies at least 35 cents per barrel more than Baldwins or Ben Davis. The consumer, of course, would have to pay this in addition to a sum that would cover the extra losses in shipping and storing. Box

packing and better shipping methods, for which we have good facilities at the present time, will tend to improve the price of the Spy to the grower.

TOP-WORKING TO CORRECT DEFECTS IN THE SPY.

Many correspondents have recommended as a method for growing Northern Spies the planting of some hardy stock like the Tollman Sweet or McMahon White and top-grafting at the age of two or three years. This undoubtedly overcomes to a certain extent the two principal faults of the Spy. The top-grafted trees will come into bearing a number of years sooner and the faulty crotches that are so marked a feature of the Spy tree will also be corrected. Nevertheless, this method is not to be recommended except where practiced by a skilled orchardist or by a farmer who has more than the usual amount of decision of character and business ability. The danger is that these trees will never be top-grafted. As a matter of fact, there are very few orchards where this scheme of top-grafting on hardy stock has been carried through with sufficient uniformity to be successful. The large number of trees of inferior varieties in almost every commercial orchard in the country, which might so readily be transferred into profitable varieties by top-grafting, show how hopeless it is to expect the average orchardist to top-graft at the proper time or, in fact, to do it at all. It cannot be said that the operation is a difficult one, and it certainly is not beyond the ability of fruit growers, even those below average intelligence, but the fact remains that the operation is not performed. With the average farmer and fruit grower it is safer to take the risk of the extra wait and the poorer tree, than the chances that the top-grafting will not be properly done where other stock than the Spy is used.

The Baldwin still remains the great market apple, and, all things considered, appears to be about the safest winter apple on the list.

The King maintains its place on account of its high quality and appearance. Nearly all correspondents report that it is a shy bearer, but more prolific when top-grafted. It brings the grower usually no better price than the Baldwin or Spy. It is difficult to see on what grounds it is recommended for commercial orchards, except for the local and personal market. It certainly is much less profitable than any of a dozen other standard varieties.

The Rhode Island Greening is limited by the tenderness of the tree, but within its area few apples appear to pay better. It has made its way in Great Britain, where for many years its colour created a prejudice against it. Besides being somewhat tender in the tree it scalds badly in storage, and it shows injuries from scale or scab most readily. Its earliness is also somewhat against it as a storage apple, but it suits southern Ontario as a fall shipper.

The Golden Russet is still a prime favourite in the foreign markets. It is even more popular in France than in Great Britain. French buyers could not secure enough of the 1905 crop and made inquiries for 1906, but the short crop in Canada and the good crop in France created a want of confidence in the market that is not justified by present prices in France. Unfortunately it is a shy bearer, and too small to pick and pack rapidly.

The Ben Davis is not recommended by growers with enthusiasm, yet all who grow it report that it is one of the most profitable varieties, if not the most profitable variety in their orchards. Its one defect is lack of quality, a defect that is often magnified by putting it on the market early in the season. It must not be forgotten that in denying quality in the Ben Davis, we are appealing only to the Canadian-American standard of taste. The English and French standards are certainly different. It is not improbable that the standard that places the quality of the Blenheim Pippin and Cox's Orange above the Northern Spy and Fameuse, will find much to commend even in the Ben Davis.

VARIETIES FOR DISTRICT NO. 1.

One of the most surprising features of the reports from district No. 1 (Southern Ontario) is the subordinate place given to early varieties. The Astrachan had scarcely a friend, the Duchess was mentioned more frequently, but only as a fifth or sixth choice. Only one grower was planting early apples extensively. The demand for early apples is increasing very rapidly. No new plantings of early varieties are being made here, and comparatively few early varieties exist at the present time. Yet Southern Ontario can place the Duchess or Astrachan on the market, two, perhaps three, weeks before they are ready to ship for districts where they are planted largely and where they are profitable. Hence it would seem that Southern Ontario is eminently situated to develop a most profitable early apple trade. The staple varieties grown at present, winter varieties for the province generally, become fall and early winter fruit here. Buyers will not purchase them for ordinary winter storage. They, therefore, come on the markets during the season of cheap apples, from October to the end of December, with the last of the early apples, and with the apples grown to perfection in the colder portions of the province, such as the Wealthy, Famense and Wolf River. If winter varieties grown in southern Ontario were placed in cold storage warehouses as soon as matured, or even if care were taken to give them the very best treatment in ordinary storage, they might be shipped with little loss. As ordinarily handled by apple operators, the loss when shipped in the winter months is very great, except when the summer and fall months are unusually cool. Cold storage treatment would bring the cost of the apples above those grown in the distinctively winter apple belt, districts 2, 3 and 6, but a handsome margin would still remain to the grower if his orchard is large enough to be taken seriously, or if he is a member of a co-operative association.

In view of the growing scarcity of early apples (those ripening in July and August), it would seem good business for southern Ontario to plant such varieties as Astrachan, Duchess and Wealthy, and perhaps McIntosh and Fameuse. The Gravenstein has been very successful in Ontario, and would make a most acceptable apple to follow the Duchess in season.

VARIETIES FOR DISTRICTS 2 AND 3.

A distinction is made between districts 2 and 3 for fruit crop purposes, founded upon conditions which do not affect materially the question of varieties. Practically the same varieties can and should be grown in both districts in commercial orchards. Perhaps in no other part of Canada is there so good an adaption of varieties to soil and climatic conditions. It is the region of the best winter varieties. Of course it must be remembered here particularly that there is no line, sharp and distinct, between the different fruit districts; they blend gradually one into the other. Consequently, in selecting varieties for the southern portions of districts 2 and 3 it is quite possible that those found most profitable in district No. 1 would also be most profitable in the adjoining parts of district No. 2. On the other hand, they merge in the north into district No. 4. It would therefore be discreet for those upon the northern margin to inquire carefully before they plant trees less hardy than those recommended for district No. 4. But where the Baldwin and Rhode Island Greening are perfectly hardy, it is safe to say that no better list can be suggested than that recommended by the growers in districts Nos. 2 and 3.

VARIETIES FOR DISTRICTS 4 AND 5.

The varieties for districts 4 and 5 are naturally quite similar, although district 4 is so favourably situated as to be able to grow apples upon a commercial scale with every prospect of success, while district 5, including as it does the colder part of Que-

bec and New Brunswick, is not so well adapted for commercial orcharding. As a matter of fact, there are very few commercial orchards in the latter district. An exception should be made in the case of the St. John valley and the more favoured portions of southern New Brunswick, which corresponds very closely with district 4, including the St. Lawrence and Ottawa valleys and the eastern townships of Quebec.

The first essential with a variety here is its hardiness. Unfortunately, there are few of the good winter varieties that can be recommended, but as a compensation the hardy fall varieties are grown here to perfection. These include the Fameuse and McIntosh Red, undoubtedly two of the most popular dessert varieties grown.

THE FAMEUSE.

Little need be said in praise of the Fameuse. Its quality, colour, size, productiveness and the hardiness of the tree have made it a favourite as a dessert apple ever since the introduction of orcharding into Quebec and eastern Ontario. It is very susceptible to the apple scab, and cannot now be grown successfully except with the most careful spraying. It is also too tender to ship in barrels, and requires very great care even in boxes, and it comes on the market at a time when apples are most plentiful. Notwithstanding its faults, the Fameuse, properly grown and handled, is in such great demand that good orchards of this variety are yielding better financial returns than those with later varieties in the distinctly winter apple growing belt.

THE M'INTOSH RED.

The McIntosh Red has all the good qualities of the Fameuse as well as its defects, except that the McIntosh is not so well known. It is, perhaps, even more hardy than the Fameuse, and there are not wanting many people who regard it as even better in flavour than the Fameuse. Its distinctive red colour is also regarded as an attraction. It is interesting to note that the McIntosh Red is recommended for British Columbia. It grows to perfection in irrigated orchards, but its susceptibility to the scab is against it in the lower mainland and islands of British Columbia.

It cannot be said that orchardists growing these two varieties are making large returns, but the causes for this are not far to seek. The trees for the most part are left unsprayed. Very few growers, except in British Columbia, are using boxes in shipping them, and fewer still are taking such care in the grading and packing as to commend the fruit to the purchasers of a high class dessert fruit, the only consumers who will pay the proper price for them. The few growers who have handled these varieties properly find them exceedingly profitable. We have a record in the Fruit Division of one orchard of four acres that has made an average over a series of years of $200 per acre net, and we have reports from other orchards, for single years, where twice this amount has been realized. The demand for this fruit, grown and packed properly, has never been filled, and the prospects are that with the increase of the wealth of our population in the cities the demand for this high class fruit will increase much more rapidly than the facilities for meeting the demand. Orchardists, therefore, in district 4 can with perfect confidence continue the planting of these two varieties. They have stood the test so long and are so well known that there is little risk in planting them largely.

In districts 4 and 5 the Duchess is one of the most satisfactory apples. The hardiness of the tree, the excellence of the fruit and its productiveness strongly recommend it. It has not, however, the highest qualities as a dessert apple, although excellent, and its season, as grown in sections 4 and 5, corresponds very closely with equally good or better apples in more southerly portions of the apple belt, so that it cannot be recommended with the same confidence as the McIntosh Red or Fameuse, though there are few places where it has not paid well when grown in sufficient quantities to

attract buyers. It grows exceptionally well in the St. John valley, New Brunswick. As grown here it is a much better shipper than when grown further south and can be exported conveniently and safely to the markets of Great Britain. One New Brunswick orchardist reports his gross income on a 12-acre orchard at $200 per acre, and every orchard of any size reports satisfactory returns. Unfortunately, in New Brunswick the orchards are usually small, and the cost of assembling the small lots of apples, and the time which it takes to do so, count against this variety as it is grown at present, but these objections would all disappear if they were grown in larger quantities. There is a possibility that the St. John valley may become as famous for its Duchess apples as the Annapolis valley has been for its Gravensteins.

The Alexander is also deservedly a favourite in districts 4 and 5. The Wealthy has much to recommend it, and may be safely planted in those districts. It stands up well until December as grown here, and meets the very strong demand at this season of the year for a highly coloured desert apple, not too large. It is exceedingly prolific, comes into bearing quite young, and the tree is very hardy and healthy.

With the five varieties the Duchess, McIntosh Red, Fameuse, Wealthy and Alexander, commercial orcharding could be carried on in districts 4 and 5 with every prospect of as good financial returns as in what are commonly regarded as the more highly favoured sections of the apple belt.

LOWLAND RASPBERRY.

The Lowland Raspberry has occupied a place for a number of years on the fruit list of the Quebec Pomological Society of the Province of Quebec. The apple was introduced by the late Charles Gibbs, and is grown in small quantities in the neighbourhood of Abbotsford, Quebec. There are also specimens on the Experimental Farm at Ottawa. The quality is excellent, the flesh being snow-white, juicy and fairly firm. The ground colour is waxlike, greenish white, three-quarters of it being almost completely covered with light rosy-red splashes, making it a very attractive apple in appearance. It is recommended to take the place of the Yellow Transparent and Red Astrachan. It is a few days earlier than the Transparent. Its shipping qualities have not been tested sufficiently to make it a safe apple for large plantations. The tree is very hardy, but only moderately prolific. If the shipping qualities are equal to the Red Astrachan it will prove a most profitable apple for export and long distance markets from southern Ontario and British Columbia, as well as for local markets, in limited quantities, everywhere.

The growers in district 6, in which are situated the chief commercial orchards of Nova Scotia, have recommended two varieties not largely planted in other districts, namely, the Ribston and the Stark. The Ribston is an old apple, thoroughly tested, but it is doubtful whether it would be largely planted if it were a late introduction. Its quality is good but not high. It is not quite so good a keeper in storage as the standard winter varieties, has not quite so good a reputation, perhaps, as the Blenheim in the English market, and is not very prolific, but has the virtue that its qualities are well known at home and abroad, and it is therefore safe.

The Stark, on the other hand, is a comparatively new apple, which has made its way very rapidly on account, perhaps, of its good keeping qualities and its productiveness. It ranks in general qualities with the Ben Davis and Gano, but is not so attractive in colour as these, though it has the reputation of being somewhat higher in flavour.

One surprise in the list that the growers have submitted from Nova Scotia, is the low place that is given to the Gravenstein and to the Nonpareil, two apples that are grown by nearly every Nova Scotian orchardist. The defects of the Nonpareil are such as cannot well be overcome. It is, therefore, perhaps, deservedly falling into greater or less disrepute.

The Gravenstein, on the other hand, appears to possess all the virtues, but has one grave defect, which for the past few years overbalanced its good points with the grower. The fruit is of the very highest flavour, appealing to the taste of a very large number of consumers; it is attractive, it ripens early enough to be acceptable, and is exceedingly prolific, but unfortunately of late years the tree is being attacked by collar rot and canker to such an extent that orchardists are afraid to plant it. It is probable also that losses, the result of the slow steamship service and poor accommodation in the past, have had something to do with the waning popularity of the Gravenstein. With the better transportation facilities now at the service of the growers and with the knowledge that the collar rot can be combatted fairly successfully by topgrafting on hardy stock, there are not wanting signs that the Gravenstein will again gain in popularity. A number of the most intelligent growers have expressed the belief that the Gravenstein will still remain the standard Nova Scotian apple.

VARIETIES, DISTRICT NO. 7.

The list recommended by the growers in District No. 7 (Nova Scotia) shows the effects of traditions in apple growing. The list is made up from the reputation of varieties in other districts, rather than from what they have done in District No. 7. None except the Wealthy would be sufficiently hardy to justify their planting in large numbers. It is true, however, that there are numerous valleys and protected hillsides in this district where the varieties given for district 6 as well as district 7 would be hardy. For exposed places or for general planting, the varieties recommended for districts 4 and 5 would be quite suitable. The objection of course to these varieties would be that they are largely summer and fall apples. Some of them, such as the McIntosh Red and even the Fameuse, can be kept till late in January. The time of ripening is not a great objection for the commercial orchard, because just as large returns can be made from these summer and fall varieties of extra choice quality as from the winter varieties. For districts 4, 5 and 7, a comparatively new apple, the Milwaukee, is recommended as a fairly good winter apple. It would not be safe to plant it except by specimen trees until it has been further tested.

THE BLENHEIM.

The Blenheim, an apple that stands second on the list from the Annapolis Valley, is widely distributed in Ontario, though in small numbers. It is somewhat remarkable that it should not be more popular in Ontario. That the plantations of this variety are not larger, must be attributed, I believe, to the fact that special attention has not been drawn to it by nurserymen or fruit experts, with the result that it is not obtainable in quantities large enough to attract the attention of the buyers. Every report that has been sent in from Ontario with reference to it has been favourable, as far as the yield and quality of the fruit are concerned, and few apples stand higher in the British markets, especially in London. It is prolific, and one of the best shippers of the season, which extends in the Georgian Bay district to the end of January. It makes an excellent apple for southern Ontario for shipment during October, November and December. The skin is tough, does not readily show bruises, and the apple is clean and attractive in appearance, though not high in colour.

VARIETIES FOR DISTRICT 8 (PRINCE EDWARD ISLAND).

The Gravenstein is likely to prove of great value for Prince Edward Island, if it proves sufficiently hardy. It matures a few weeks later than the Gravensteins of Nova Scotia and is equally attractive in appearance. The first picking from Prince Edward

Island will overlap the later shipments from Nova Scotia, making a continuous Gravenstein season for the two provinces, extending over two months. Prince Edward Gravensteins can be kept without difficulty till December, and even January, but it would be a very great mistake to attempt this, inasmuch as the market will be suspicious as to the keeping qualities and would pay a much lower price in consequence. The best results will be obtained by overlapping, if possible, the Nova Scotia shipments, and supplying the markets continuously as long as the fruit is in good condition. The dealers will have no hesitancy in accepting the Prince Edward Island Gravensteins before they are known as such, and they will gradually associate good keeping qualities with the Prince Edward Island Gravensteins, giving them finally the preference when available.

THE BAXTER.

The Baxter apple has been mentioned by several Prince Edward Island correspondents. This variety has formed a marked feature of the fruit exhibit held each year at the meeting of the Provincial Fruit Growers' Association. The tree is very hardy, and the fruit particularly attractive. The quality is good, but not high. It suits the taste of the British market much better than that of the Canadian. It runs very even in size, and when packed in boxes makes a most attractive package. In this respect it probably is not surpassed by any grown in Canada. It is also grown to a certain extent in northern Ontario, and is very highly commended by both growers and shippers. It is, however, too early for the middle and southern portion of the province, and probably would not be a safe apple to plant except in the colder portions of the apple belt.

VARIETIES FOR DISTRICTS 9 AND 10 (BRITISH COLUMBIA).

British Columbia is a law unto itself in the matter of varieties. There are so many features entirely different from the rest of Canada that it is hardly possible to compare varieties or to use the experience gained in eastern Canada for guidance on the Pacific slope. There are, however, several varieties in common. The King, Spy, Gravenstein, Wealthy, Duchess, Baldwin and McIntosh Red are all recommended for eastern Canada and all do well in British Columbia. It is doubtful, though, whether the King would have been recommended had it not been for the traditions of eastern Canada. It certainly grows to perfection, but is not better than many other varieties that are much more prolific and make perhaps better trees.

The Spy has a good reputation in the Pacific province, as it has in the East, and will undoubtedly always be a standard. The Baldwin is only fairly successful and with the opportunity of growing so many varieties of better quality it will, perhaps, always be low down on the planting list.

It is a matter of surprise that the early varieties were not more highly recommended, especially for the interior. A few have mentioned the Yellow Transparent, but have coupled with it such defects as will surely bar it out as a profitable variety for extensive planting. The conditions in British Columbia vary in the province so widely that it is scarcely possible to pronounce authoritatively yet on varieties for specific districts. Planters, therefore, will have to proceed cautiously. There is much experimental work to be done before confidence can be given to any list for this province.

CRAB APPLES.

Crab apples are scarcely mentioned as a commercial proposition in any province except British Columbia. An inquiry among the growers in other apple districts

elicited the fact that crab apples have scarcely been worth the packing for the past fifteen years. This is due to the fact that the crab apple is limited to the domestic markets and to the single use, practically, of jelly making. Undoubtedly there has been a surplus of them on the local markets. Consequently after each family has been supplied with one or two gallons, there is no demand for what is left. Even the canning factories failed to appreciate their value for preserved products. During the last two or three years it has been discovered that the markets of the Northwest provinces will take them in fairly large quantities. The British Columbia people were the first to appreciate this; consequently they have been selling crab apples at exceedingly high prices, making them one of the most profitable varieties of fruit in their plantations. Ontario growers are undoubtedly beginning to note that there is an outlet for their crab apples in the same market. The shipments were fairly large in 1905 from Ontario, but have been more than doubled for the season of 1906. Still there were thousands of bushels allowed to rot on the ground.

This comment is made in view of the number of crab apples that are being planted in British Columbia. While it is not easily possible to overdo the market for good dessert and cooking apples, the same cannot be said of crab apples. This caution is not needed in eastern Canada, inasmuch as there have been few commercial plantings of crab apples made during the last fifteen years. This fruit can be grown in all the colder sections of the apple belt, and it would therefore seem a doubtful investment to plant more in the best apple sections than will meet the purely local demands.

THE EARLY APPLE TRADE FOR EASTERN CANADA.

In 1905, the last year for which we have full statistics, American ports exported 445 barrels of apples in July, 1,621 barrels in August, and 274,944 barrels in September—291,410 barrels for the three months. Of this number Canada contributed 152,764 barrels. Nevertheless, during these months we can ripen the Red Astrachan, the Duchess, Wealthy, the Gravenstein, and half a dozen other desirable varieties. The Red Astrachan ripens in southern Ontario, in the most favoured portions, the last week in July, and can be shipped freely the first two weeks of August. The Duchess in the very earliest portions is ready for shipment the first week in August, and could be shipped in good order from different portions of the country for two months. The Gravenstein, and many other varieties are ready for shipment from southern Ontario the middle of September, and from Nova Scotia later in the month. There is no reason, therefore, why this trade should not be encouraged from Canada. The prices are higher than for winter fruit, and considerably higher than the fall fruit. The transportation charges, however, are greater, and more care is required in the handling of the fruit, and of course there are greater risks of all kinds in transit, but, making due allowance for this, there is every reason to believe that this early trade is quite as profitable as the trade in winter apples. The conditions required for this trade are: First, perfect fruit, clean and bright. Second, extreme care in the packing of fruit to insure that it is packed not too green nor yet overripe. Third, the packing must be in boxes, the grading being done very carefully so as to insure uniform size and colour in each package. Of course all overripe specimens will be rigidly excluded. Forth, the cooling of the fruit before packing, or immediately afterwards, by mechanical refrigeration, or by ice, or, if both are impossible, by exposing the fruit to the cool night air, and packing it in this condition and loading it at once on refrigerator cars. Refrigerator car service is absolutely necessary for the best results, as well as cold storage on board steamship, both of which are now available to the fruit grower. Unfortunately, the early fruit, even where there is considerable quantity of it, requires to be handled so promptly that individual shipments are out of the question. It is impossible to handle it except in carload lots. It is therefore a trade

which calls for co-operation among growers. Of course an apple operator who would give special attention to this business could in all probability make it as profitable as winter apples, but it is more than probable that his experience in shipping apples would disqualify him from making a success of the early apple business. The methods that are commonly adopted with the winter apple trade would lead to certain failure if applied to the summer apple trade. The orchard packing in the middle of the day, the use of barrels instead of boxes, the careless packing of the fruit in the orchard or at railway stations, and the usual delays in loading the cars would prove most disastrous in the case of early apples.

USEFUL LISTS OF NAMES.

The answers to question 8 have enabled us to complete the list of the apple buyers of the Dominion. The answers to questions 10 and 11 also give us a very useful list of cider manufacturers and the owners of evaporators.

APPLE BUYERS.

The answers to question 9 indicate that there has been a marked improvement in late years in the methods and morals of the itinerant and irresponsible apple buyer; nevertheless, there is not wanting evidence that there still exists a large number of unscrupulous men who prey upon the credulity of apple growers. The methods of these men are various. Indeed the word schemes would perhaps better describe their practices, and these schemes are modified to suit the conditions of each intended victim. A common scheme is to buy apples at somewhat more than the market price, or indeed at any price that will secure them, pay a small sum down and promise the balance later. If the schemer succeeds in disposing of his stock soon enough, so that it is impossible for his creditors to secure any assets, he then declares himself insolvent and offers perhaps part payment for the fruit, declaring himself unable to pay anything more. So skillful have some of these buyers become that they frequently are able to operate two years in succession in the same place. When they are discredited in one neighbourhood, it is but a small matter to move a few hundred miles away, where they are able to work the same scheme on apparently virgin soil. Any one who knows the conditions on the average farm will readily see how large a source of loss this may be. The farmer, ashamed of having suffered a loss, says little about it, even if it is a comparatively large one, and there is no means whereby the reputation of this buyer can be spread broadcast among the growers of another locality, so that it is easy to conceive that a disreputable buyer might operate very close to the neighbourhood where he is utterly discredited.

Injustice is sometimes done by men who cannot be classed as itinerant apple buyers. A case in point is given here which will illustrate the necessity for apple growers exercising every precaution when making a sale of their fruit. An apple grower in western Ontario with an excellent commercial standing sold his fruit to a buyer. The apples were sold on the condition that the grower should do the picking only. The buyer was to supply the barrels and do the packing, and a price was agreed upon for all No. 1 and No. 2 apples. The grower performed his part, as he thought, by picking them and storing them in a shed approved of by the buyer. The buyer was notified when the picking was concluded, and several times afterwards. Owing to the scarcity of barrels and other causes, the buyer did not come to the premises to pack until after the winter frost had set in, rendering the apples a total loss. The grower entered suit and lost the case on the ground that there was no complete contract until the apples were barrelled and the amount of culls determined. There was no stipulation in the contract as to the time when the packing should be done. There are two decisions of the courts on record, of cases almost identical wth this.

The obvious conclusions with reference to the sale of apples are, that sales should be made only to well known and reputable dealers who can furnish collateral at the time the fruit is delivered, to the full value of the apples, and such as would be accepted in a chartered bank. Written contracts ought to be made at the time of the sale, and all questions of prices should be settled definitely then; and on questions of grade the Fruits Marks Act should be quoted as the standard accepted by seller and buyer.

WASTE APPLES.

Large quantities of apples, aggregating thousands of barrels, went to waste in districts 1 and 2; some waste was also reported in districts 3, 5 and 8. The reasons given for this are exceedingly suggestive. In districts 1 and 2 the prevalence of extraordinary winds accounted probably for one-third of the loss; want of help for picking the fruit is another important factor; the absence of buyers, exorbitant freight charges, scarcity of cars, want of cold storage and the low prices offered for apples were all given as causes for this waste.

The returns under the head of questions 10 and 11 indicate that the business of manufacturing the lower grades of fruit and waste products of the orchard into marketable by-products is not by any means in a satisfactory condition. The canning industry is apparently hampered and limited by conditions purely artificial, that seriously interfere with the extension of the business of canning and preserving fruit. The business of evaporating apples appears to be in a state of arrested development, with thousands of barrels of good fruit for this purpose going to waste every year. It would seem a confession of failure on the part of fruit growers to note how small a share Canada has in the evaporated apple industry of the world. The United States, with a total production of apples only four or five times as great as that of Canada, has an evaporated industry twenty times greater than that of Canada. Evidently this subject of the waste products of the orchard and fruit plantations of Canada needs thorough investigation.

FARMERS STORING APPLES FOR WINTER SALE.

Nova Scotia is the only province where the farmers store quantities of apples for winter sale. In all other apple producing districts in Canada, the custom is almost universal of selling before frost, to dealers who make a business of storing for winter sales. As far as the export trade is concerned, perhaps there are no objections to this method of doing business. The cost of building a really good frost-proof storehouse is considerable, but the cost is materially reduced when the building can be made large, and the fruit is much safer and can be handled to much better advantage when stored in large quantities. Of course the farmers could have all these advantages and the profits which legitimately go along with this method of working, by organizing co-operatively. The case, however, is different when we come to the local trade. There are very few farmers who could not store a number of barrels of apples in their cellars, or in some other frost-proof place, from which sales could be made very profitably for local consumption. An inquiry made among the grocers of the small towns in the apple-producing districts has shown that in very few cases have there been sufficient apples stored where they were produced for the purpose of supplying local needs. Quite frequently during the winter months the price for good apples is lower in the export market than it is in the towns and villages in the vicinity of the orchards where apples were grown. This, of course, is poor business on the part of the apple growers. Notwithstanding the value of the export market, it is quite secondary in point of profit to the local market up to the limit of its consuming capacity.

The answers to questions 14, 15 and 16 were practically the same as those which were received from our correspondents for the monthly fruit crop reports, under which head they will be noticed.

Question 17 developed a great many interesting features in connection with the orchard industry. Naturally the growers made this the medium for expressing the grievances under which they laboured in the management of their business.

NURSERY STOCK.

Many correspondents complained of having received wrong varieties and occasionally poor stock from nurserymen. Some few complained of having received diseased trees or trees infested with insects.

TRANSPORTATION ABUSES.

A large list of alleged abuses in connection with transportation might be compiled from the returns. Lack of cars, high freight rates, want of protection at stations, delays in transit and rough handling were all mentioned frequently, and numerous examples of evils not quite so common, such as misrouting of cars, neglect to trace cars asked for, and neglect to settle promptly for the loss of fruit.

LOCAL EVAPORATORS.

Some fruit growers complain very bitterly of the tactics of the owners of local evaporators, who would take advantage of the virtual monopoly of the business which they have in the neighbourhood, and pay nothing more for evaporating stock than the cost of picking and hauling it to the evaporator. This, of course, furnishes a very strong argument for the co-operative ownership of evaporators. In a few places where there was competition, as high as fifty cents per hundred was paid for evaporating stock last year. We have the numerous cases where evaporators paid only fifteen cents per hundredweight, and twenty and twenty-five cents per hundredweight was quite a common price.

GENERAL COMMENTS.

The questions asked in the schedule submitted to apple growers, cover a wide range of subjects. As was to be expected, many of the questions were not answered exhaustively. In fact the answers are in many cases quite as remarkable for what they suggest as for the important direct information which they give.

It must be confessed that the apple industry is not developed as it deserves. The quantity is equal neither to the capacity of the country nor the demands of the market, and the quality is not by any means creditable to the intelligence of the growers.

It is encouraging to note the increased interest in spraying and in co-operative marketing. Along with the improvement in quality and methods of selling will come specific demands for improvements in the railway facilities and also a more intelligent use of low grade fruit, most of which is now wasted.

DEMONSTRATIONS IN FRUIT PACKING.

Each season since the inception of the Fruit Division instruction has been given in packing apples and pears in cases, boxes or barrels. The methods used by the skilled packers employed have been embodied in a bulletin which will soon be placed in the hands of the printer.

Mr. C. E. Stewart, from the Pacific coast, was employed as a skilled box packer to give instruction in the eastern provinces during the season of 1906. In this capacity he visited and gave demonstrations in the following places:—

Ontario.—Toronto, Simcoe, Forest, St. Catharines, Thornbury, Oakville, Burlington, Chatham, Walkerton, Owen Sound, Brighton, Newcastle, Oshawa, Orillia, Winona, St. Davids, Trenton, Queenston.

Quebec.—Chateauguay Basin, St. Hilaire.

New Brunswick.—St. John.

Nova Scotia.—Falmouth, Wolfville, Kentville, Canning, Laurencetown, Berwick, Annapolis, Truro, Halifax (Dominion Exhibition), Cambridge, Weston.

Prince Edward Island.—Charlottetown (Provincial Exhibition).

FRUIT PACKING.

The effect of the demonstrations of this and former years is clearly discernible in the fruit placed on the general market. Canadian barrel packing is now recognized as the best in the foreign market, and little remains to be done but to maintain this high standard by supplying information and every encouragement possible to young men who may wish to follow this work, as well as to fruit growers generally.

The effect of this work is even more perceptible at the fall exhibitions of fruit. It is largely owing to the work of the Fruit Division that commercial packages were recognized at all upon the prize lists. At first the entries showed serious defects almost universally. At the first provincial fruit exhibition held in Toronto, out of nearly two hundred box packages not one could be recommended as a model. At the last exhibition a very large percentage of all the box packages would be regarded as most excellent examples of the packer's skill if placed on the general market. A few years ago no creditable box packing was done commercially in eastern Canada. At the present time there are several firms that are making a regular business of supplying boxed fruit that for the excellence of the packing is not surpassed by the best work of the fruit men of the Pacific coast. Unfortunately, there are yet too few engaged in the box fruit business in eastern Canada to attract attention on the general market. The signs are hopeful, however, that the provincial authorities will take up the subject of box packing and make instruction in this art a regular part of their institute work. The co-operative associations are also active agents in better packing and packages. The combined results will be that the fruit grower will get more for his fruit, and the consumer better satisfaction for his money.

ATTENDANCE AT FRUIT GROWERS' MEETINGS.

The services of the staff of the Fruit Division have been called into requisition frequently to take part in fruit meetings. In nearly every case these have been under the auspices of the various fruit growers' associations. The members of the staff have also acted very frequently in the capacity of judges of fruit at fall fairs. They have been enabled in this way to promote the commercial side of fruit growing, and to disseminate in a very practical way a knowledge of the Fruit Marks Act. It is needless to say that, from the very nature of their work, they have been able to accumulate much information that is of value to those who are actively engaged in the growing of fruit. It is therefore desirable that they should meet fruit growers individually and in special meetings as frequently as their other duties will permit.

Mr. Baker attended fourteen fruit growers' meetings in Ontario; Mr. P. J. Carey six; Mr. A. Gifford, sixteen; Mr. Vroom ten fruit meetings in the maritime provinces, and in addition delivered a series of lectures at the short course in horticulture at the Truro college. Mr. C. E. Stewart was engaged to give special demonstrations in box packing. He visited for this purpose the chief fruit districts of Ontario, Quebec and the maritime provinces.

I attended fruit meetings at the following places, delivering an address upon a fruit topic in each: The Canadian National Exhibition, Toronto; the Experimental

Union, Guelph; Ontario Fruit Growers' Association, Toronto; the New Brunswick Fruit Growers' Association, Fredericton; and special meetings at Canton, Brighton and Belleville, in Ontario. I also attended fruit meetings at New Westminster, Victoria, Hammond and Nelson in British Columbia.

POWER SPRAYING.

The Fruit Division has been experimenting with power spraying for four years under many different conditions. The primary object was to demonstrate the conditions, favourable and unfavourable, of spraying by contract, as grain threshing is now done in many parts of Canada. The scheme is an attractive one to those interested in orcharding. Seventy-five per cent of the millions of barrels of apples grown in Canada are grown by men who cannot be described as fruit growers. They are general farmers with small orchards of one to five acres. Such growers find spraying a particularly disagreeable operation. It takes the same outfit to spray one acre as ten, and the outfit is somewhat expensive considering the limited use to which it is put. The time taken to prepare the mixtures and machine is about the same for a small orchard as for a large one, and the work, to be effective, admits of no delay, and comes at a very busy season. The results are not seen immediately, nor can they be tested definitely except by methods few farmers will apply. It will be admitted readily by those familiar with the conditions on the average Canadian farm that objections less powerful than these will prevent spraying being done in small orchards with sufficient promptness and regularity to be effective. It was hoped that contract spraying would overcome these difficulties. The results of our four years' demonstrations do not show that all the difficulties in the way of contract spraying can be readily overcome. The advantages of contract spraying are many. The man who undertakes it finds it quite as remunerative as threshing by contract. Farmers are glad to pay from four to five cents per full grown tree for each spraying with poisoned Bordeaux mixture. The sprayer can make from $10 to $15 per day, or if conditions are favourable, even $20, for an outfit costing about $300 in addition to his own time and that of two assistants and a team of horses. The daily outlay for gasoline, or other power, would not amount to more than fifty cents per day. The amount of skill required is not so great as to prevent any one succeeding at spraying who has made a success of threshing. But conscientious carefulness in preparing and applying the spray is essential. It would seem at first sight that spraying by contract should be a success. But it is not. Only two or three outfits are in operation in Canada, so far as can be ascertained. The difficulties in the way are as follows:—

There is no test that can be applied easily and definitely that will positively prove the quality of the work. When a thresher does his work the bushel measure is there to decide beyond cavil how much work has been done. A very simple examination at the tail of the machine, or on the straw stack, will determine at once the quality of the work. There is no such standard for the work of spraying. The sprayer may be using an almost useless mixture, or may be applying a good mixture carelessly, yet he cannot be easily detected at the time, or even afterwards. The benefits of spraying are too much obscured by other circumstances to serve as a measure for the quality of work done in spraying. When the bushel measure or the yard stick can be applied to spraying, then we may hope for the extension of contract spraying.

CO-OPERATIVE SPRAYING.

The difficulties in the way of contract spraying are in a large measure removed when the spraying is done co-operatively. The work is then done as if the many small orchards were parts of one large orchard controlled by one owner. It is difficult to get farmers to co-operate for the single operation of spraying, but where there is co-

operation for selling, co-operation for other purposes is easier. Nearly every co-operative selling association is also spraying co-operatively, with excellent results.

POWER SPRAYING VERSUS HAND SPRAYING.

Though the primary object of the Fruit Division was to determine all the conditions surrounding contract work in spraying, yet many other features were developed.

In comparing power spraying with hand spraying, it was not found that all the advantages were on the side of the power outfit.

The advantages of power spraying are as follows:—

1. The pressure on the pump is more uniform and it is easier to secure a high pressure, giving of course a finer spray.

2. Fewer men are required.

3. The work can be done more cheaply in large orchards.

The disadvantage are:—

1. The outfit is expensive at first cost and also for repairs.

2. It requires considerable familiarity with machinery to run it successfully.

3. It is inconvenient on soft ground such as would be found in a cultivated orchard at the first spraying.

The hand pump is cheap, simple in construction, light to work in soft ground and thoroughly effective where a high pressure is maintained.

It is a common error to suppose that the power pump will throw the spray much higher than the hand pump. Neither will throw it against the wind, or perpendicularly, more than a few feet from the nozzle, if it is as fine as it should be; nor will it do good work if the spray is coarse. No attempt was made to test the efficiency of different makes of power sprayers.

CO-OPERATION.

The subject of co-operation among fruit growers in harvesting and selling the crop is of more than ordinary interest to the Fruit Division. Apart from the very great benefits accruing to the fruit growers themselves by the adoption of co-operation, the Fruit Division has an interest in this movement in connection with the enforcement of the Fruit Marks Act. Under the usual method of selling fruit the operations and conditions all tended to bring about infractions of the law. Under the influences at work in the co-operative associations the tendencies are all in the other direction. For the purposes of the enforcement of the Fruit Marks Act, therefore, it can be said that the formation of every co-operative association is an aid to our work. A logical result of this is, that the members of the staff in addressing fruit growers' meetings pay particular attention to the subject of co-operation.

It is gratifying to note that there are now thirty-five associations in active operation. A bulletin has been prepared upon the subject, written with a view of giving further support to this movement.

IDENTIFICATION OF VARIETIES.

There has been a very large increase in the number of specimens of apples sent in to be named. It is certain that many very serious mistakes have been made in varieties as the result of confusion in names. The following case is typical: A farmer having the usual small orchard with numerous varieties, finds that a variety of which he has a few trees is in every way desirable under his conditions. Determining to enlarge his orchard, he very naturally selects the greater portion of this variety. Seven

years later when his new planting begins to bear a few specimens, he begins to suspect that the trees in his young orchard are not true to name. Two or three years later when all come into bearing, and a full investigation has been made, he finds that he was mistaken in the name of the original trees that did so well in the old orchard, but the nurseryman gave him the variety he ordered. This mistake cost him many hundreds of dollars. It is quite probable that before his error was corrected, he had perpetuated it by recommending to other intending planters his old favourite misnamed trees.

Every fall fair at which there is an exhibition of fruit, illustrates the confusion which exists among small growers in apple nomenclature, and demonstrates the commercial importance of correct naming.

The members of the Fruit Division staff, having experience in all parts of the Dominion, are well qualified to render assistance in this work. Specimens may be sent postage free; at least four should be sent, in all respect characteristic of the variety. These should be accompanied by a letter giving information as to where and how they were grown, their season, the characteristics of the tree, and any other facts that might affect their condition or quality.

I have the honour to be, sir,
Your obedient servant,

A. McNEILL.
Chief of Fruit Division.

PART V.—COLD STORAGE.

GENERAL.

The question of cold storage has been considered in Canada chiefly from an export point of view, but the rapid increase in population, especially in the western provinces, where the production of the perishable products of the farm is not large enough to supply the local needs, means a great growth of the internal trade of the country in these products.

The geographical features of Canada, the diversity of its climate and products, the sharp contrast in the seasons, the immense distances which separate the different parts of the country, and the ability of the people to purchase largely of the good things of the earth, all combine to make the question of cold storage of great importance in this country from the standpoint of domestic trade alone.

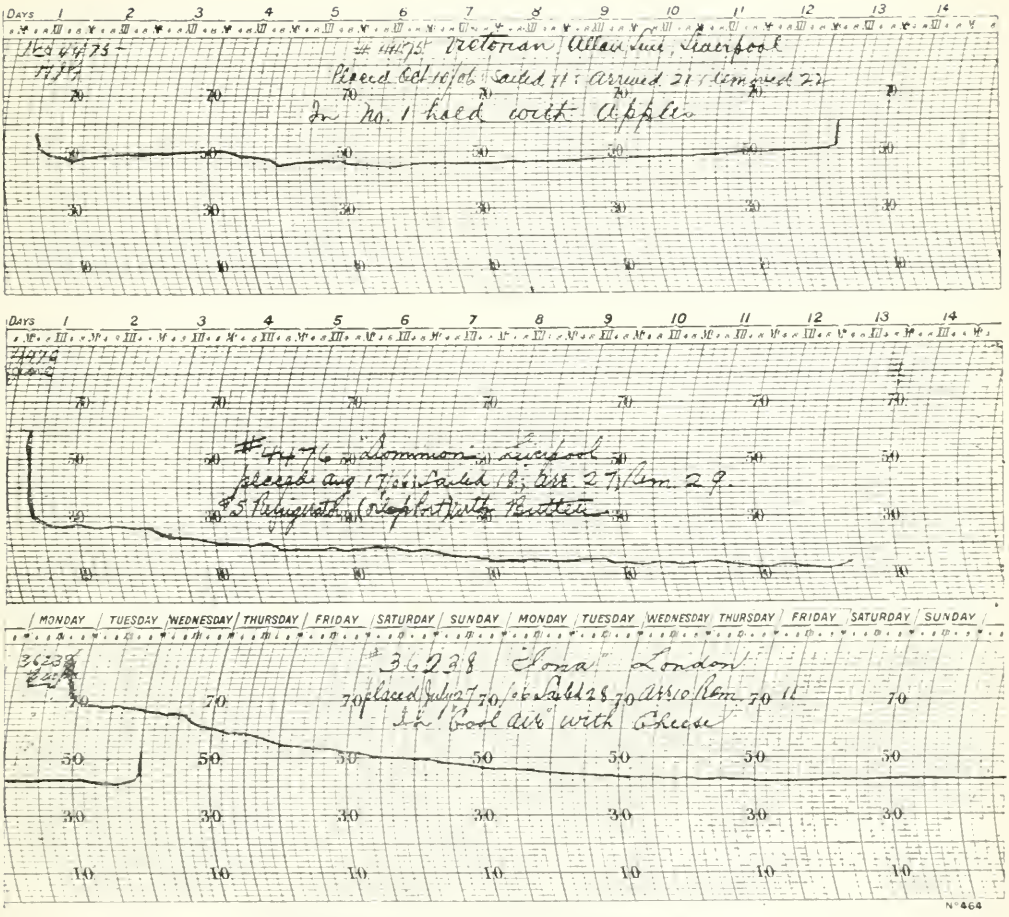
It enables the fruit grower in southwestern Ontario and in British Columbia to ship his tender products to the farthest points reached by the railroads, and thus it makes the whole of Canada a market for what could otherwise be disposed of in very limited areas only. The period during which some of the early maturing and choicest varieties of apples are available can be extended for several months, and thus the outlet for an enormous production of fruit in favourable localities is provided and the inhabitants of the districts which are not adapted for the growing of fruits are enabled to procure a regular supply in good condition, at fairly reasonable prices.

Cold storage enables the dairyman to store his surplus butter and cheese during the active season of production and to dispose of it during the off season, when manufacture has almost, if not entirely, ceased. Prices are equalized and the consumer is supplied with an article in better condition throughout the whole year than would otherwise be possible. Not only is the business of the producer enormously increased, but the commerce of the country derives a corresponding benefit.

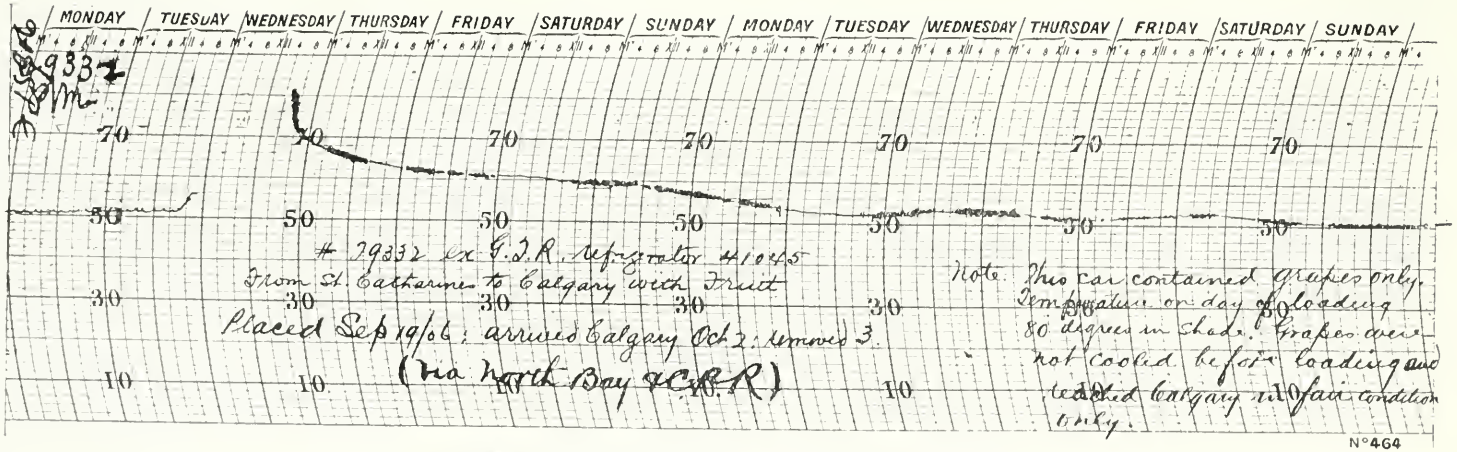
COLD STORAGE FOR FRUIT.

The fruits of Canada are noted for their tender, luscious qualities, which is synonymous with saying that they require careful handling and protection, to check the rapidity of their life processes, as compared with the drier and less juicy fruits grown in other climates.

There is no food product grown in Canada which comes within the perishable class, to which the use of cold storage can be applied with more benefit than it can be to some of the fruits. The apple is Canada's most important fruit, and not the least dependent upon cold storage if the most is to be made out of the crop. Every farmer who keeps a few barrels of apples for his winter use recognizes the effect of cold storage in prolonging the life of his apples, by keeping them in a cellar which will be as cold as possible without freezing. What is not so generally recognized is the fact that low temperatures are most effective to this end if the apple is placed therein *immediately* after being taken off the tree. When this course is adopted, the ripening process is checked at a time when it would naturally proceed very rapidly, especially as the warmest weather to which the apple will be exposed is likely to prevail at the time the crop is being harvested. A few days' cold storage at this stage is of more value than as many weeks later on. There are districts in Ontario admirably adapted for the growing of apples, but where the length of the warm season frequently causes great loss and discouragement to the grower, by carrying the apple to a stage of ma-



SPECIMEN THERMOGRAPH RECORDS IN STEAMSHIPS, 1906.



SPECIMEN THERMOGRAPH RECORD IN REFRIGERATOR CAR, 1906.

turity which interferes seriously with its keeping quality. Cold storage would be of especial benefit to the apple grower in such localities.

COLD STORAGE FOR BUTTER.

All creameries, worthy of patronage, are now equipped with a cold storage room of more or less efficiency, in which to hold the butter for a few days before shipment, and there is ample cold storage accommodation in Montreal for butter awaiting export. It must be admitted that there is still room for improvement in the creamery cold storages, but one of the greatest needs at the present time is for better methods of handling the large quantity of dairy butter which is produced. In the first place, every farmer who makes butter to sell should provide himself with a supply of ice, to insure proper temperature in the manufacture of the butter and to keep it cool until he is able to market it; and the merchant who deals in dairy butter, and often accumulates large quantities, has quite as much need for a cold storage room as the creamery has. It would add many thousands of dollars a year to the value of dairy butter manufactured in Canada, and give the consumers a much better article, if the merchants who handle the butter were provided with proper storage facilities. There has probably been a little tendency to neglect dairy butter in some of the schemes for improvement, on the ground that the creamery industry should be encouraged as much as possible, being the best in the end for all those who desire to engage in butter-making. There are, however, a large number of farmers in Canada who are not within reach of either a cheese factory or a creamery and who are obliged to manufacture butter themselves as the only means of disposing of their milk.

CREAMERY COLD STORAGE.

The government offered a bonus of $100 to creameries for the erection and maintenance of a small cold storage according to plans and specifications prepared and furnished by the Dairy and Cold Storage Commissioner. There were 57 applications for the bonus in 1906. Of this number 25 were approved and received the full bonus. Others were held over to give the owners another chance to comply with the conditions by making improvements suggested by the inspector.

COLD STORAGE SERVICES.

The various cold storage services arranged for by the Department of Agriculture, and which are supervised and administered by this branch, have now been established so long and are so well known that further description would seem to be superfluous. Briefly, the different plans of the Department of Agriculture for assisting in the preservation and safe transportation of perishable food products are as follows:—

Iced butter cars.—A regular weekly or fortnightly iced butter car service from the butter-producing districts to Montreal and Quebec, effective May 7 to October 21. These iced cars are available for the shipment of butter in any quantity, at stations on the route. Shippers are charged the current tariff rates. The Government guarantees the earnings of two-thirds of a minimum carload and pays the railway $4 per car for icing.

Iced cheese cars.—A service of iced cheese cars, effective July 1 to September 9, for the shipment of cheese, in carloads, at current tariff rates. The cars are supplied by railway agents on demand of shippers, and the government pays icing charges to the extent of $5 per car for a limited number of cars per week on the different railway lines. The total number of cars which may be supplied under this arrangement is 105 per week.

Iced fruit cars.—A service of iced cars for fruit in carloads intended for export via Montreal or Quebec, effective August 1 to September 30. The cars are supplied

by railway agents on demand of shippers, and the government pays icing charges to the extent of $5 per car.

A staff of inspectors are employed to see that these services are properly carried out. For details see Part III. of this report.

TRANSATLANTIC COLD STORAGE.

During the season of 1906 there were 240 sailings of steamers from Montreal and Quebec having cold storage accommodation, the combined space amounting to 4,885,094 cubic feet distributed as follows:—

	No. of sailings.	Cubic feet.
Bristol	31	899,849
Glasgow	61	872,025
London	63	1,116,683
Liverpool	75	1,921,537
Manchester	10	75,000
Totals	240	4,885,094

COOLED AIR SERVICES, SEASON, 1906.

In 1906 there were 82 sailings of steamers from Montreal with cooled air accommodation, the combined space amounting to 4,119,304 cubic feet, distributed as follows:—

	Cubic feet.
To Bristol	185,940
To Liverpool	782,952
To London	3,150,412
Total	4,119,304

SHIPMENT OF PERISHABLE PRODUCTS, SEASON 1906.

No absolutely exact records are kept of the quantities of perishable produce shipped in cold storage chambers, cooled air compartments or in ordinary storage, from the port of Montreal, but the following figures, compiled from reports received from our cargo inspectors, are approximately correct for the total shipments from Montreal to ports in the United Kingdom for the season of navigation, 1906. In this statement the quantities shipped from Quebec, per Empress steamers, are also shown. In each case American produce is included.

SHIPMENTS FROM MONTREAL TO PORTS IN THE UNITED KINGDOM, SEASON 1906 (U.S. PRODUCE INCLUDED).

	In Cold Storage.	In Cooled Air.	In Ordinary Storage.
Cheese (boxes)		394,022	1,815,299
Butter (packages)	366,642	658	1,020
Bacon (packages)		87,823	126,236
Apples (barrels)	4,880	3,878	366,363
" (boxes)	2,944	553	17,777
Tender fruits (packages)	30,993	2,103	173
QUEBEC TO UNITED KINGDOM PORTS PER EMPRESS STEAMERS.			
Cheese (boxes)		12,007	17,312
Butter (packages)	1,012		
Bacon (packages)		3,409	12,517
Apples (barrels)			13,882
" (boxes)			676

The quantities shown under the heading 'In Cooled Air' include only goods on which the extra cooled air charge was paid. On nearly every voyage, however, more or less perishable produce, paying only the ordinary rate, received the benefit of cooled air transportation, either because of lack of space in the general holds, or for the sake of convenience in handling the cargo.

The cold storage on steamships is now provided without any subvention from the Government.

For further particulars of cold storage on steamships, including thermograph records, &c., see Part III.—Extension of Markets.

BUTTER IN STEAMSHIP COLD STORAGE.

During the season of navigation of 1906, the cargo inspectors at Montreal tested the temperatures of 1,751 packages of butter as these were being loaded into the steamers. After taking the temperatures each package was marked so as to enable the inspector at the port of discharge to get the temperature of the same package as soon as it was unloaded from the steamer. The temperatures for each line have been averaged for the season, and the results are shown in the following table:—

MONTREAL TO LIVERPOOL, SEASON 1906.

Steamship Line.	Number of Sailings with Butter.	Number of Packages Tested.	Average Temperature at Montreal.	Average Temperature at Port of Discharge.	Reduction in Temperature.
			Degrees.	Degrees.	Degrees.
C. P. R.	4	19	45·5	26·2	19·3
Dominion	22	274	40·4	21·4	19·0
Allan	21	163	36·4	20·8	15·6
General Average			39·2	21·4	17·8

MONTREAL TO LONDON, SEASON 1906.

Allan	15	140	44·0	22·9	21·1
Thompson	26	379	40·9	19·9	21·0
C. P. R.	1	8	40·0	24·3	15·7
General Average			41·7	20·5	21·2

MONTREAL TO BRISTOL, SEASON 1906.

C. P. R.	13	179	40·0	23·7	16·3
Dominion	14	182	34·0	24·0	10·0
General Average			36·9	23·9	13·0

MONTREAL TO GLASGOW, SEASON 1906.

Donaldson	21	243	36·5	22·3	14·2
Allan	20	131	32·9	28·2	4·7
General Average			35·0	24·1	10.9

MONTREAL TO MANCHESTER, SEASON 1906.

Manchester Liners	9	33	41·2	38·8	2·4

A comparison of the above figures with those for 1905, contained in last year's report, shows that, with the exception of the Manchester Line, there was no difference in the average temperature of the butter when delivered to the steamers at Montreal. The butter delivered to the Manchester Liners was on an average 6·8 degrees warmer in 1906 than in 1905. When a comparison is made between the temperatures at the ports of discharge, however, the averages for 1906 are much better than those for 1905, the improvement being as follows: Liverpool service 3·5 degrees lower, London service 6·1 degrees lower, Bristol service no change, Glasgow service 4·6 degrees lower. Instead of improvement the Manchester service does not show as good results in 1906 as in 1905, the average temperature at the port of discharge in 1906 being 8·4 degrees higher than in 1905. As already explained, this is partly accounted for by the fact that the butter delivered to this line at Montreal was 6·8 degrees warmer last year than the year previous.

A reference to the foregoing table shows that the Thomson Line, London service, takes first place for the lowest average temperature of butter at the port of discharge, with the fine showing of 19·9 degrees, followed closely by the Allan Line, Liverpool service, with 20·8 degrees. The Dominion Line, Liverpool service, comes third, with 21·4 degrees, and the Allan Line, London service, fourth, with 22·9 degrees. As was the case the previous season, the Manchester service makes the poorest showing, namely, 38·8 degrees. With respect to the reduction in temperature, the Allan and Thomson Line services head the list with 21·1 degrees and 21 degrees respectively.

On the whole, the cold storage services for butter provided in 1906 by the steamship lines plying between Montreal and the ports named were eminently satisfactory, and amply justify the boast that as an all around proposition the ocean cold storage service between Canada and the motherland is now the best in the world.

THERMOGRAPHS IN STEAMSHIPS.

A factor that has contributed very largely towards the marked improvement that has been shown each year in our ocean cold storage facilities is the use of the self-registering thermometer, called the thermograph. The Department first made use of these instruments in the season of 1900, when thirty thermographs were purchased. Each year since the number has been increased so that in the season of 1906-7 the Department had one hundred and eighty-two thermographs in commission, using them not only in steamship chambers and holds, but in refrigerator cars and in creamery cold storages as well. In steamships alone five hundred and fifteen records of temperatures were obtained, namely, four hundred and sixty-one records in steamers sailing from Montreal and Quebec, and fifty-four records in steamers sailing from Halifax. In the steamers sailing from Montreal and Quebec, thermographs were placed as follows:—

Placed with.	Where Placed in Steamship.		
	Cold Storage.	Cooled Air.	Ordinary Storage.
	Times.	Times.	Times.
Butter	110		2
Cheese	3	11	89
Fruit	16	1	51
Meats	4	10	1
Lard	1		
Butter, meats and lard	36		
Cheese, meats and lard	8	28	32
Frozen salmon and lard	6		
Cheese, fruit and meats	2	10	25
Butter and poultry	1		
Fruit and lard	1		1
Apples, cheese and eggs			6
Cheese, meats and butter		1	1
Cheese, meats and eggs			2
Apples, lumber and hay			2
Totals	188	61	212

In the sailings from Halifax the thermographs in each case were placed in ordinary storage with apples.

The thermographs, which are encased in locked boxes perforated so as to admit the air, are stowed with perishable cargo in refrigerator chambers, cooled air chambers and in the ordinary holds. When the ship reaches port in Great Britain, our cargo inspector removes the thermographs just as soon as they become accessible. He takes off the charts, which are numbered to correspond with the number of the thermographs, and mails them at once to Ottawa together with a memo. giving the name of the vessel time she arrived, and date thermographs were removed. When the charts are received here such particulars as the steamer's name, sailing date, port of destination, date of arrival, date thermograph was placed, where it was placed in the ship, kind of produce it was stowed with, &c., are written on the face of each chart, and using it as a negative, six photographic copies are made, two of which are retained in the office here, one sent to the Montreal Board of Trade, one to the steamship agents, one to the chief engineer of the steamer and one to our Montreal office.

These records indicate every variation of temperature each day of the voyage and are of great assistance to the engineer in charge of the ship's refrigerating machinery, who studies them carefully, and, if any unusual variation is shown, endeavours to find out the cause so that the same thing may not occur on succeeding voyages. The engineers are, therefore, very keen to get these records, and as soon as they reach Montreal on each return voyage, they at once look for their copies of the temperature records secured on the outward voyage.

THERMOGRAPHS IN RAILWAY CARS.

Between August 10 and October 9 twenty thermographs were placed in refrigerator and ventilated cars carrying tender fruits and apples. Fourteen records were obtained in cars carrying fruit from St. Catharines to Winnipeg, three records from St. Catharines to Calgary, two records from Brighton to Montreal and one record from St. Catharines to Ottawa. Legible records were secured in each case. Besides the value accruing from an exact knowledge of the temperatures in these cars while in transit, the records were very useful in showing the length of time

the cars were detained at the different stopping points en route. It was possible to determine this because while the car was in motion the temperature line on the chart was somewhat blurred, due to the vibration, but as soon as the car came to a standstill, the line became fine and very distinct. Copies of the records obtained in these cars were forwarded to the shippers and also to the railway concerned. In the latter case a letter was also sent pointing out the different delays in transit indicated on the chart.

A number of thermographs were also placed in refrigerator cars, carrying butter to Montreal for export, and also in creamery cold storages.

SUBSIDIES FOR COLD STORAGE WAREHOUSES.

The policy of giving financial assistance towards the erection of public cold storage warehouses in Canada was adopted by the Government during the session of 1906-7 by the introduction of the Cold Storage Bill, entitled 'An Act to encourage the establishment of Cold Storage Warehouses for the preservation of perishable Food Products.' Parliament approved of the measure and it became law without delay.

The requirements of trade in certain localities have made cold storage an absolute necessity, and in such places the revenue is sure enough to make the investment a fairly safe one, so that it needed no special inducement to secure the capital required to provide the necessary facilities.

While it may, at first glance, seem a little unfair to assist the new enterprises, even if noncompetitive, it must be borne in mind that the existing cold storage warehouses occupy the choice locations, and for that reason some inducement seems to be necessary if similar facilities are to be provided in other localities.

There is a large quantity of perishable produce handled in this country without cold storage, the value and stability of which would be much more improved by its use. Where it is possible to get along without cold storage, even if the results are unsatisfactory, the question is not studied so closely, and the improved facilities come more slowly, than is the case where the necessities are greater. It is hoped that the attention which has been drawn to the subject by the adoption of the principles involved in the Cold Storage Act, and the discussions which will naturally arise thereon, will have an important educational influence in the direction of creating a more general appreciation of the advantages of cold storage and a greater demand for such facilities. It is believed also that this process of education will result in bringing more business to existing cold storage warehouses.

The following is the full text of the Act and the regulations pertaining thereto:—

THE COLD STORAGE ACT.

AN ACT TO ENCOURAGE THE ESTABLISHMENT OF COLD STORAGE WAREHOUSES FOR THE PRESERVATION OF PERISHABLE FOOD PRODUCTS.

His Majesty, by and with the advice and consent of the Senate and House of Commons of Canada, enacts as follows:—

1. This Act may be cited as the Cold Storage Act.

2. The Governor in Council may enter into contracts with any person for the construction, equipment and maintenance in good and efficient working order, of public

cold storage warehouses equipped with mechanical refrigeration, in Canada, and suitable for the preservation of all food products.

3. The location, plans and specification of every such warehouse, its equipment, and the amount to be expended thereon, shall be subject to the approval of the Governor in Council.

4. The Governor in Council may, out of any moneys appropriated by Parliament for the purpose, grant towards the construction and equipment of any such warehouse, a subsidy not exceeding in the whole thirty per cent of the amount expended or approved of in such construction and equipment, and payable in instalments as follows: upon the warehouse being completed and cold storage at suitable temperatures being provided therein, all to the satisfaction of the Minister of Agriculture, a sum not exceeding fifteen per cent of the amount so expended; and at the end of the first year thereafter seven per cent of the said amount; at the end of the second year thereafter four per cent of the said amount, and at the end of each of the two next succeeding years two per cent of the said amount: provided the warehouse is maintained and operated to the satisfaction of the Minister of Agriculture.

5. The Minister of Agriculture may refuse to pay any part of the said subsidy if, in his opinion, the operation of the warehouse has not been of such a character as to provide for the proper preservation of such products as may be stored therein.

6. The Minister of Agriculture may order, and cause to be maintained, an inspection and supervision of the sanitary conditions, maintenance and operation of such warehouses, and may regulate and control the temperatures to be maintained therein in accordance with the regulations to be made as hereinafter provided.

7. The rates and tolls to be charged for storage in such warehouses shall be subject to the approval of the Governor in Council.

8. For the effective carrying out of the provisions of this Act the Minister of Agriculture may appoint inspectors, who shall have access to all parts of such warehouses at all times.

9. The Governor in Council may make such regulations as he considers necessary in order to secure the efficient enforcement and operation of this Act; and he may by such regulations impose penalties not exceeding fifty dollars on any person offending against them; and the regulations so made shall be in force from the date of their publication in the *Canada Gazette,* or from such other date as is specified in the proclamation in that behalf.

10. Chapter 7 of the statutes of 1897, intituled An Act respecting Cold Storage on Steamships from Canada to the United Kingdom and in certain cities in Canada, is repealed.

REGULATIONS.

Whereas by section 9 of the Cold Storage Act it is provided as follows:—

'The Governor in Council may make regulations as he considers necessary in order to secure the efficient enforcement and operation of this Act; and he may by such regulations impose penalties not exceeding fifty dollars on any person offending against them; and the regulations so made shall be in force from the date of their publication in the *Canada Gazette*, or from such other date as is specified in the proclamation in that behalf.'

Therefore His Excellency the Governor General in Council is pleased, in virtue of the above cited provisions of the said Act, to make the following regulations, the same to come into force on the date of their publication in the *Canada Gazette.*

1. The Minister of Agriculture may make appointments of inspectors and other persons for the enforcement of the Act.

2. No applications shall be considered for any cold storage warehouses except those equipped with mechanical refrigeration, nor for any place where any such cold storage already exists or where the proposed cold storage would compete directly with other establishments of the same class.

3. Applications for a subsidy under the Act must be made in the following form, which shall be known as Schedule A:—

SCHEDULE A.

No.....

APPLICATION FOR COLD STORAGE SUBSIDY.

Application is hereby made on behalf of .....
of ..... in the province of..... for the subsidy offered under *The Cold Storage Act* for a public cold storage warehouse equipped with mechanical refrigerating machinery, to be erected at.....

Particulars.

Size of building in cubic feet.....
Refrigerating space in cubic feet.....
Number of separate chambers .....
Kinds of produce to be stored .....
.....
System of mechanical refrigeration to be used.....
.....
Capacity of refrigerating machinery in tons of refrigeration per 24 hours.....
Character of the available water supply.....
.....
Estimated cost of building, equipment and water supply.....
.....
Cost of site .....
Will the whole building be used for the purposes of a public cold storage? .....
If not, what proportion will be set aside for public use?.....
.....

Attached are the following documents:—

EXHIBIT 1, being a copy of the plans and details of the insulation of warehouse.

EXHIBIT 2, being a true copy of the specification of warehouse and insulation.

EXHIBIT 3, being schedule of rates to be charged.

EXHIBIT 4, sketch showing location of warehouse or proposed warehouse in regard to connection with railway lines and wharfs.

4. The owners of cold storage warehouses in order to secure the subsidy, will be required to maintain the following temperatures therein, for the preservation of the various products mentioned.

Kinds of Produce.	Temperature.	
	Min.	Max.
Apples and other fruits	32	36
Butter		26
Cheese	35	40
Eggs, meats and dressed poultry	30	34
Bacon and hams	40	45
Fish (frozen)		20
Meats, poultry and game (frozen)		20
Vegetables	34	38

5. Nothing in these regulations shall prevent owners of subsidized cold storage warehouses from entering into special contracts with customers for the maintenance of temperatures other than those herein specified.

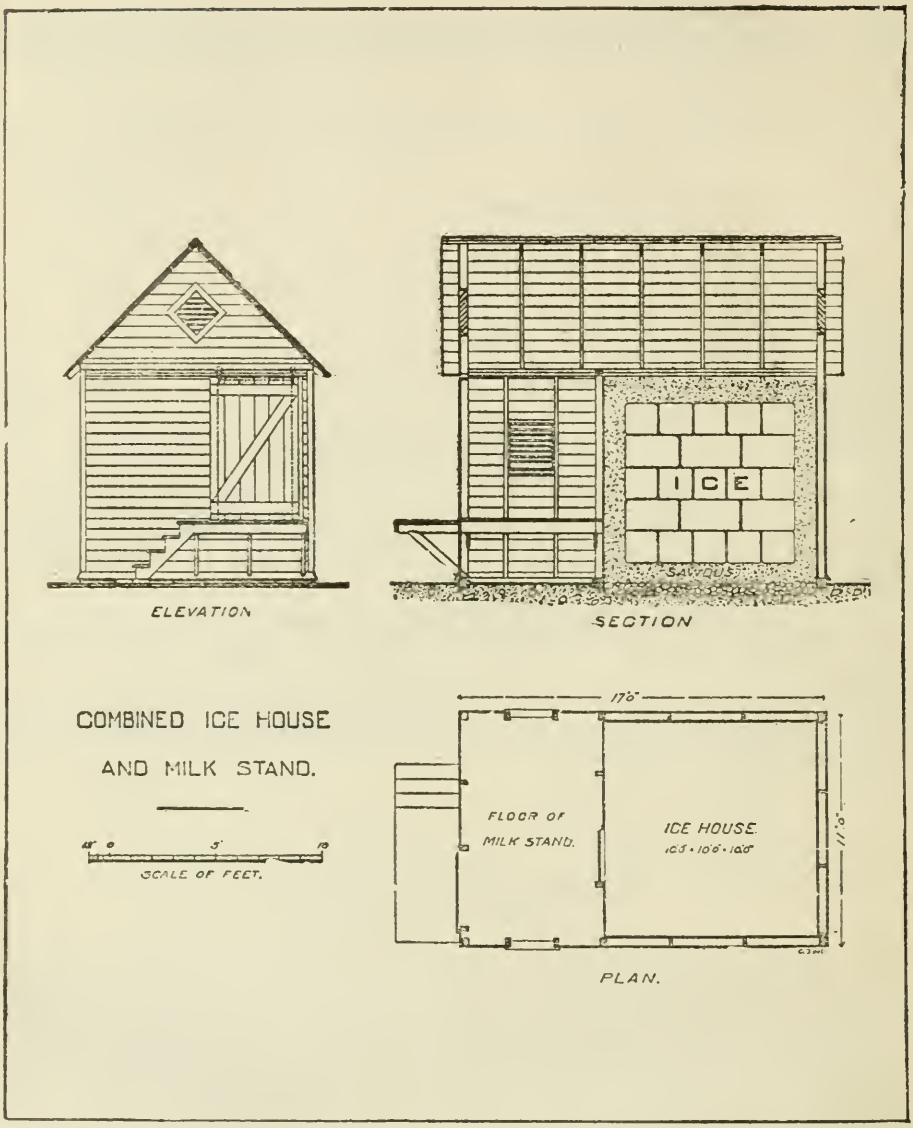
6. The first instalment of the subsidy shall not be paid until the applicant shall have presented proper vouchers for the cost of building, equipment, site and other expenditures.

7. The owners of cold storage warehouses to which the subsidy or any part thereof has been paid, may be required to make an annual report to the Minister of Agriculture in such form as may be prescribed.

THE USE OF ICE ON FARMS.

Every farmer in whose vicinity natural ice is available should store a sufficient quantity for use during the summer months. A supply of ice is worth all it costs for the comfort it gives to the family during the heated term and, moreover, it pays for itself, if properly applied in the preservation of milk, butter, meat, vegetables and other perishable articles. The dairy farmer especially, will find in a supply of ice a great saving of labour and positive safeguard in keeping his milk during hot weather. The crudest kind of building which will keep out the sun and the rain, or the corner of a shed, will serve for the mere storage of ice if dry sawdust or marsh hay is available in which to pack it for protection against the heat. All that is necessary to do is to provide for some drainage and cover the ice on all sides, top and bottom, with about 12 inches of sawdust, hay or cut straw (24 inches of hay or straw) and protect the covering from the weather.

Those who desire to have a more complete cold storage on a small scale will find a plan and specification in the Dairy Commissioner's report for 1906.



The accompanying plan (plate 1) shows a convenient arrangement for the storage of ice in connection with a milk stand, designed to meet the needs of patrons of cheese factories and creameries. This plan was first brought to the writer's attention by Mr. G. G. Publow, Chief Dairy Instructor for Eastern Ontario, when travelling with him through Hastings and Prince Edward counties, where many of the progressive farmers have adopted this plan. A model combined milk stand and ice house was erected on the grounds of the Central Canada Exhibition Association at Ottawa last autumn and attracted considerable attention. This arrangement which affords both protection from the weather and dust and also from animals or insects, and convenience for the cooling of milk, cannot be too highly recommended. Very great improvement would be made in our hot weather cheese if the night's milk was always properly cooled, and the saving of loss in cases where the milk turns sour before reaching the factory would amount to a very considerable sum.

To utilize the ice for household purposes in connection with an arrangement of this kind, it would be necessary to provide an insulated ice box in which to put articles of food along with a quantity of ice from time to time. A simple arrangement, which will give good satisfaction, is to make a box in the shape of a trunk or chest, lined with galvanized iron, and divided in the centre by a partition open at the top and bottom to allow for a circulation of air between the two compartments. The ice can be placed in one side of the partition and articles of food on the other side. A box constructed as follows will give good satisfaction: One layer of matched boards covered with one inch of hair felt and finished with another layer of inch boards. That is to say, the sides, top and bottom will consist of two ply of matched boards with one layer of one-inch hair felt between. The cover should fit tightly and be provided with a cushion of some kind to make it air tight. The galvanized iron lining is necessary to prevent the dampness from affecting the wood and destroying the insulation. It is necessary to provide a drainage pipe for the melting ice, and the outlet should be trapped to prevent passage of air. If hair felt cannot be procured easily, leave a space of 3 or 4 inches between the outside and inside finish of the box and fill this space with planing mill shavings or thoroughly dry sawdust.

COLD STORAGE NOTES.

IN COLD STORAGE.

There are various methods of using ice as a refrigerant for the cooling of warehouses.

(1) *The circular systems,* in which there is communication between the cold storage room and the ice chamber to provide for a circulation of air over the ice and through the rooms which are to be chilled. The air in passing over the ice loses some of its moisture, and the ice absorbs the heat taken up in passage through the storage room. All these systems are based on the knowledge of the fact that cold air is heavier than warm air, and by a proper arrangement of the ducts the circulation of air is automatic and continuous. It is obvious that in order to promote this circulation of air it is necessary that the ice should be placed on a higher level than the rooms which are to be chilled. In some systems the ice is placed directly over the cold storage room, while in others, it is placed alongside the storage room.

In the circulation system the ice is not covered, so that the air may come in direct contact with it, but the chamber in which it is stored must be well insulaetd to prevent undue waste. A temperature of 40 degrees can be maintained with this system without any difficulty, providing the insulation is reasonably efficient.

(2) *The cylinder system* is another system frequently used, in which galvanized retorts or cylinders are placed within the cold storage room, and these are filled with crushed ice and salt from time to time, as may be required to maintain the refrigeration. The maximum of refrigeration is attained with a mixture of one part of salt to three parts of ice. With a sufficient number of cylinders and provision for using a large quantity of ice and salt, temperatures below the freezing point of water may easily be maintained with this system. The circulation system, being automatic, requires no labour or expense during the period of operation, but in the other system the retorts or cylinders have to be filled frequently with crushed ice, and there is the additional expense for salt. On the other hand, the ice used in the cylinder system does not require to be placed in an insulated room, but can be stored in the usual way by covering with sawdust or similar material.

SYSTEMS OF MECHANICAL REFRIGERATION.

While ice is still used for small rooms, or where low temperatures are not required, the mechanical system is the only successful one for a modern cold storage warehouse.

The ammonia compression system is the one most largely used in Canada; although a few machines have been installed which use carbonic acid gas as a refrigerating medium instead of ammonia. There are different methods of applying mechanical refrigeration to a warehouse. (1) Refrigeration may be obtained by placing expansion coils in the room to be chilled. (2) The expansion coils may be placed in a brine tank and the chilled brine circulated through pipes in the different storage rooms of the warehouse. (3) The system most generally used in Canada is known as the air circulation system, in which a circulation of air is maintained through the cold rooms by the use of fans forcing the air over the expansion coils and through trunks or ducts to the different rooms of the warehouse. This system gives a comparatively dry air, which is purified more or less in passing through the expansion coil bunker, over which a strong brine is constantly flowing. The cold brine absorbs moisture from the air and purifies it for return to the chamber where the goods are stowed.

APPROXIMATE RELATION BETWEEN SPACE TO BE REFRIGERATED AND TONS REFRIGERATION REQUIRED.

There are so many factors that enter into a calculation of the relation between space to be refrigerated and the capacity of the refrigerating machine required, such as size of warehouse, character of the insulation, temperature of the cooling water, kind of goods to be stored, and whether for longer periods or for active storage, that it is impossible to lay down a hard and fast rule for guidance on that point. For ordinary public cold storages carrying mixed produce, the following figures are submitted as only approximate:—

Space.	Refrigeration required.
1,000 cubic feet	10 tons per day.
30,000 "	20 "
50,000 "	30 "
75,000 "	40 "
100,000 "	50 "

For a fruit cold storage where a temperature lower than 32 degrees will not be required, the tons of refrigeration in relation to space can be somewhat reduced.

POWER REQUIRED.

For each ton of refrigeration about 1½ horse-power should be provided. That will be sufficient for pumping water and brine and driving fans, in addition to running compressor.

WATER FOR COOLING PURPOSES.

The water supply is a very important consideration in planning a refrigeration plant, as the amount of refrigeration performed is only equal to the heat taken up by the cooling water which passes over the condenser coils. It requires, roughly speaking, about one gallon of water per minute per ton of refrigeration; that is to say, a 10-ton machine would require 10 gallons of water per minute—more or less according to the temperature of the water.

The amount of refrigeration effected by any machine is only equal to the amount of heat carried off in the cooling water. The colder the water is the more effective it is for this purpose. It is not practicable to raise the temperature of the cooling water higher than about 80 degrees. It is obvious, therefore, that water with an initial temperature of 50 degrees will go twice as far as water having a temperature of 65 degrees.

COST OF WAREHOUSES.

The cost of a cold storage warehouse, equipped with mechanical refrigeration, depends upon the class of building erected, the kind of insulation used, and to some extent on the locality and relative cost of materials. A warehouse may be constructed entirely of wood and insulated with mill shavings, at a minimum cost. Such a building may be made to serve all the purposes of cold storage, with a high degree of efficiency, until the material begins to deteriorate. A medium sized warehouse of the foregoing construction may be erected and equipped at a cost of 20 to 30 cents per cubic foot of gross capacity. Warehouses of fireproof construction throughout may cost as much as 50 cents per cubic foot of capacity. Then there are other combinations, known as slow burning construction, the cost of which will be somewhere between the two extremes. These figures are exclusive of site and water supply and are only approximate, but are given because we have many inquiries for just such information.

ALL WOOD CONSTRUCTION.

In erecting a warehouse of all wood construction, it is only necessary to provide an outer and an inner shell, as nearly as possible impervious to air and moisture, and fill the space between with mill shavings. The floors and partitions in the building are constructed in the same manner. Two courses of matched lumber, both inside and outside of the studs, with double ply damp proof paper between, will give very good results. The space between the inside and outside sheathing, which is filled with shavings, should be at least 12 inches wide and the studding should be erected on the staggered plan to save heavy material and to do away with solid timbers running from one side of the wall space to the other. For tests of insulation of this kind, and plan of construction, see Insulation Experiments, page 52, Dairy Commissioner's report for 1906.

FIREPROOF BUILDINGS.

The walls of fireproof buildings are consructed of brick, tile or concrete and insulated with non-inflammable material like sheet cork or mineral wool. This construction has the advantage of being permanent, not liable to decay in any form, and affects a great saving in the matter of insurance.

INSULATION.

Shavings.—Planing mill shavings are one of the best of available materials for the insulation of non-fireproof buildings. They are superior to sawdust, because it is almost impossible to secure sawdust in a dry condition, and therefore it heats, moulds and becomes musty, and starts decay in the walls. The heating also causes a settling of the sawdust, leaving open spaces. Shavings being taken from seasoned lumber, and from its surface, do not contain sufficient moisture to develop mould, and if well packed are not known to settle afterwards. It takes about 7 to 9 pounds of shavings to fill one cubic foot of space. They can be procured from large planing mills or large woodworking establishments, in bales, at a comparatively small cost.

Damp proof paper.—It is important to use damp proof paper of good quality in connection with shavings for insulation. Ordinary building paper is not suitable for cold storage construction and should never be depended on. The damp proof papers are made especially for this purpose.

Cork Insulation.—For fireproof construction, one of the most popular materials for insulation is sheet cork, which is applied in slabs from two to three inches thick, laid in cement and plastered with cement. For high efficiency two layers of cork are usually applied.

Mineral Wool.—Hollow spaces in fireproof walls are sometimes filled with mineral wool.

Hollow Spaces.—Hollow spaces are not now employed for insulating, as formerly. While absolutely dead air is one of the best known insulating media, experience has taught that the air confined within hollow walls is not *dead air,* but that it circulates sufficiently to carry heat from one side to the other by convection. The filling of the wall space with a material like shavings, confines the air and prevents it from moving, although it really is the air in the interstices of the material which gives it a value for insulating purposes.

The structural walls of a warehouse are not counted upon for insulation. No matter what the construction of the building is, the insulation is a separate consideration. In the all wood construction, the combination of wall and insulation is very convenient. In the fireproof constructions, or where the walls are built of brick or concrete, the insulation is generally placed on the interior surface of the walls.

It pays to insulate well.—The problem which is before the cold storage engineer in planning a warehouse and in preparing specifications, consists in preventing the outside heat from entering the rooms, and in removing what heat is introduced by the goods brought into store, and that which finds entrance through the walls. It is always a question, therefore, as to which is the more economical, increased insulation to stop the heat from entering, or increased refrigeration for removing it. In every proposition there is a proper balance between heat stopping and heat removal, to find which requires careful calculation. The amount of insulation required depends naturally upon the difference which will exist between inside and outside temperatures. For extremely low temperatures, where sharp freezing is required, it will pay to use more insulation than in cases where temperatures suitable for the storage of fruit, for instance, will be required. All these things have to be considered in making plans and specifications for a warehouse.

EQUIVALENT OF A TON OF REFRIGERATION.

Refrigerating machines are rated according to tons of refrigeration per 24 hours. One ton of refrigeration is equal to the melting of one ton of ice, so that the cooling power of a ten-ton refrigerating machine is equal, in 24 hours, to the cooling that would be effected by the melting of ten tons of ice. For purposes of calculation, the British thermal unit (expressed B.T.U.) is used. One thermal unit is the amount of heat necessary to raise the temperature of one pound of water one degree Fahr., or to be more exact, from 39 to 40 degrees. One pound of ice in melting absorbs 142 heat units without increase of sensible heat or rise in temperature; so that 142 x 2,000=284,000. One ton of refrigeration is equivalent to 284,000 heat units. It is easy to calculate on this basis the amount of water required for cooling purposes, when one knows how many heat units can be transferred to every pound of water passing over the condensing coils. If the water flows onto the coils at a temperature of 55 degrees, and has acquired a temperature of 75, as it leaves the condensor, every pound of water will have absorbed 20 heat units, and it will take 14,200 pounds of such water for every ton of refrigeration per 24 hours, or almost exactly 1 gallon per minute per ton of refrigeration per day.

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